## REPORT RESUMES

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EVALUATION AND PROGRAM PLANNING IN AGRICULTURAL EDUCATION, REPORT OF A NATIONAL SEMINAR (OHIO STATE UNIVERSITY, JULY 27-30, 1966).

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OHIO STATE UNIV., COLUMBUS, CTR. VOC. AND TECH. ED

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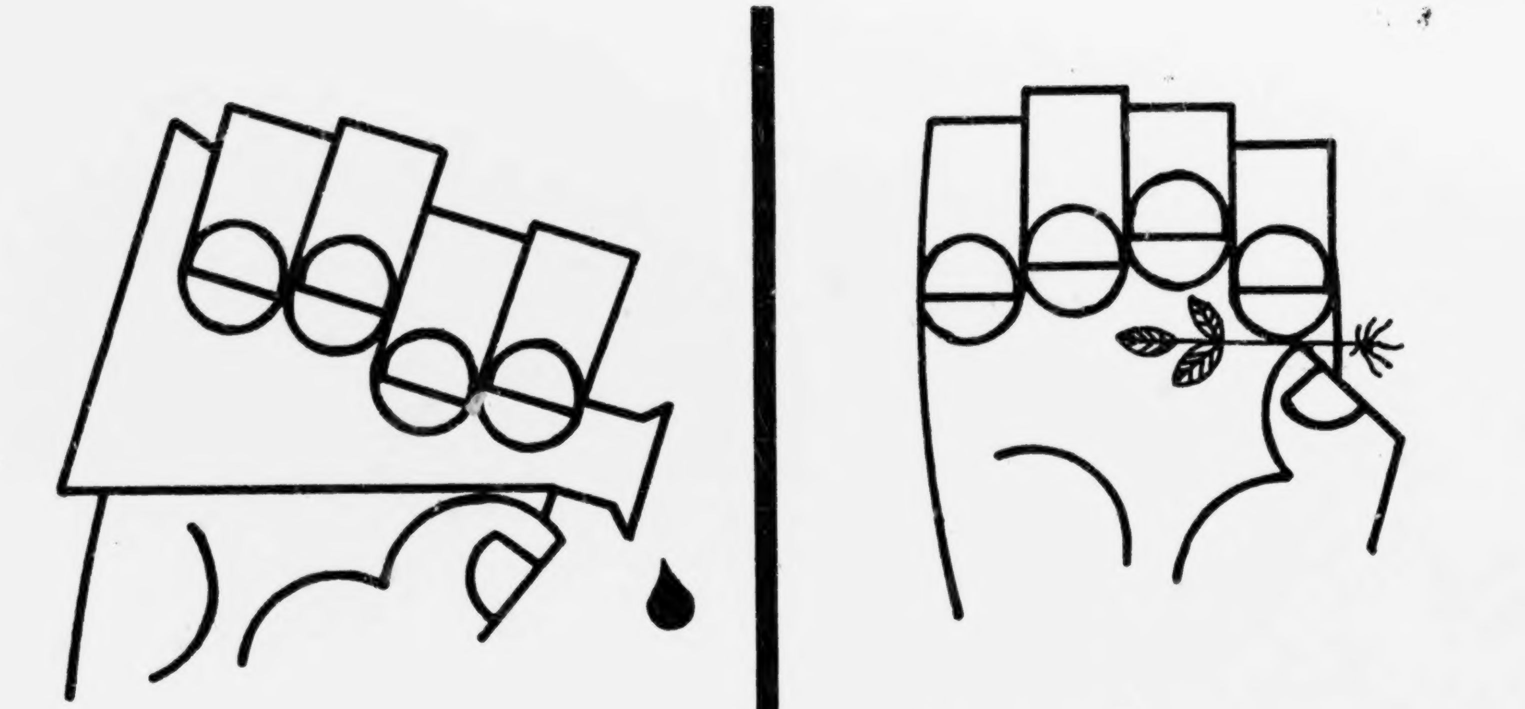
PROVIDING 72 LEADERS FROM 36 STATES AN OPPORTUNITY TO POOL RESOURCES AND PLAN FOR EVALUATION, THE SEMINAR WAS DIRECTED TOWARD CONSIDERATION OF STATE STAFF LEADERSHIP ROLES IN EVALUATING PILOT PROGRAMS, APPRAISING TEACHING MODELS, PLANNING CONTINUING EVALUATION, DEVELOPING EVALUATION TECHNIQUES IN CONJUNCTION WITH PROGRAM PLANNING, AND FORMULATING DISSEMINATION PROCEDURES. INDIVIDUAL PRESENTATIONS INCLUDED--(1) "PURPOSES OF THE SEMINAR," (2) "OBJECTIVES AND EVALUATION IN VOCATIONAL AGRICULTURE," (3) "THE CENTER PROJECT IN OFF-FARM AGRICULTURAL OCCUPATIONS," (4) "FEDERAL RESPONSIBILITIES IN EVALUATION OF VOCATIONAL AND TECHNICAL EDUCATION," (5) "THE ROLE OF THE CENTER IN NATIONAL EVALUATION," (6) "GUIDELINES FOR THE DEVELOPMENT OF INSTRUMENTS FOR EVALUATION IN VOCATIONAL AGRICULTURE," (7) "A PROGRESS REPORT ON INTERSTATE COOPERATION," (8) "EVALUATION THROUGH RESEARCH," (9) "NATIONAL EVALUATION IN VOCATIONAL AGRICULTURE," (10) "ALTERNATIVES IN PROGRAM PLANNING," AND (11) "EVALUATION AND PROGRAM PLANNING." (JM)

# Evaluation and Program Planning in Agricultural Education

ED011037

A Report of a National Seminar

June 27–30, 1966



VT01099

The Center for Vocational and Technical Education
The Ohio State University · 980 Kinnear Rd · Columbus Ohio 43212

The Center for Vocational and Technical Education has been established as an independent unit on The Ohio State University campus with a grant from the Division of Adult and Vocational Research, U. S. Office of Education. It serves a catalytic role in establishing a consortium to focus on relevant problems in vocational and technical education. The Center is comprehensive in its commitment and responsibility, multidisciplinary in its approach, and interinstitutional in its program.

The major objectives of The Center follow:

1. To provide continuing reappraisal of the role and function of vocational and technical education in our democratic society;
2. To stimulate and strengthen state, regional, and national programs of applied research and development directed toward the solution of pressing problems in vocational and technical education;
3. To encourage the development of research to improve vocational and technical education in institutions of higher education and other appropriate settings;
4. To conduct research studies directed toward the development of new knowledge and new applications of existing knowledge in vocational and technical education;
5. To upgrade vocational education leadership (state supervisors, teacher educators, research specialists, and others) through an advanced study and in-service education program;
6. To provide a national information retrieval, storage, and dissemination system for vocational and technical education linked with the Educational Research Information Center located in the U. S. Office of Education;
7. To provide educational opportunities for individuals contemplating foreign assignments and for leaders from other countries responsible for leadership in vocational and technical education.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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# REPORT
# OF
# A NATIONAL SEMINAR
# "EVALUATION AND PROGRAM PLANNING IN AGRICULTURAL EDUCATION"

The Center For Research and Leadership Development
in Vocational and Technical Education

July 27 - 30, 1966

The Ohio State University

Columbus, Ohio

# ACKNOWLEDGEMENT

The National Center gratefully acknowledges a grant from The Sears-Roebuck Foundation to underwrite the expenses of this Seminar.

# PREFACE

Seventy-two state and national leaders in agricultural education, representing thirty-six states, the District of Columbia, and Puerto Rico met on the Ohio State University campus, June 27 - 30, 1966, to consider the problems surrounding evaluation in agricultural education.

The major purpose of the Seminar was to provide an opportunity for state leaders in vocational agriculture and representatives of other vocational services to pool their resources and plan for effective measurement and evaluation in agricultural education.

Key questions under consideration during the Seminar evolved around the leadership role of state staffs in:

Evaluating pilot programs in off-farm agricultural occupations;

Appraising and refining course outlines and teaching models developed by The Center Staff;

Planning for comprehensive and continuing programs of effective measurement and evaluation;

Developing effective evaluation techniques at the high school and post-high school level in conjunction with program planning procedures;

Formulating dissemination procedures for off-farm agricultural programs.

The material in this publication has been edited and most speeches contain only the major portions of the presentation given at the Seminar. The material should also be read with an understanding of the context under which they were given.

The agricultural education profession and The Center for Vocational and Technical Education acknowledge their gratitude to the Sears-Roebuck Foundation for underwriting the expense of this Seminar.

We sincerely hope that the Seminar provided the spark, and to some extent the direction, for evaluation in agricultural education over the coming months. The Seminar participants recognized the crucial timing of the topic and worked long, hard hours during the week to think through the various aspects of evaluation. We hope the Seminar provided the means by which leaders in agricultural education can effectively organize the task of evaluation.

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# PROGRAM

### Monday, June 27, 1966

| | |
|---|---|
| 8:30 - 9:00 | Registration |
| 9:00 - 9:30 | Introductions<br>Conference Procedures<br>Welcome to OSU - R. H. Bohning, Associate Dean, Agricultural Administration, Ohio State University |
| 9:30 - 10:00 | Purposes of conference<br>James W. Hensel - Conference Chairman |
| 10:00 - 10:30 | Break |
| 10:30 - 11:30 | Objectives and Evaluation in Vocational Agriculture<br>Sid Sutherland, Prof. Emer., University of California |
| 11:30 - 11:45 | Questions from audience<br>Announcements |
| 11:45 - 1:00 | Noon Break |

Objectives in Vocational and Technical Education in Agriculture

| | |
|---|---|
| 1:00 - 1:30 | (1) G. R. Cochran, Supervisor, Minnesota |
| 1:30 - 2:00 | (2) William L. Hull, Oklahoma State University |
| 2:00 - 2:30 | (3) David Shontz, University of Rhode Island |
| 2:30 - 3:00 | Break |
| 3:00 - 3:30 | (4) Jerry J. Halterman, Chico State College, California |
| 3:30 - 4:00 | (5) C. Oscar Loreen, Washington State University |
| 4:00 - 4:30 | (6) T. L. Faulkner, Supervisor, Alabama |
| 4:30 - 5:00 | Summary, Questions, Announcements |

### Tuesday, June 28, 1966

| | |
|---|---|
| 8:30 - 9:00 | The Center Project in Off-Farm Agricultural Occupations, George Luster, Kentucky |
| 9:00 - 10:15 | Symposium - Pilot programs utilizing Center materials for instruction in off-farm agricultural occupations<br>Bill Becker, Ag Supply, Janesville, Wisconsin<br>Jim Utzinger, Horticulture, Grove City, Ohio<br>Al Kahler, Ag Machinery, University of Nebraska<br>H. Anderson, Experience Programs, State Staff, Colorado |
| 10:15 - 10:30 | Break |
| 10:30 - 12:15 | Small group discussions of Center materials<br>Authors of modules lead discussions |
| 12:15 - 2:15 | Noon Luncheon - Ohio Union - Franklin Room<br>Bernard Michael, U. S. Office of Education - The National Evaluation in Vocational Education<br>Bob Mullen - Sears Foundation |

| | |
|---|---|
| 2:15 - 2:45 | The Role of The Center in the National Evaluation Project<br>V. E. Christensen, Center Staff |
| 2:45 - 3:30 | Guidelines for the development of criteria for evaluation in vocational agriculture - Ralph Woodin, Ohio |
| 3:30 - 3:45 | Instructions for the small group sessions |
| 3:45 - 4:00 | Break |
| 4:00 - 5:00 | Small work group sessions to develop evaluative criteria in vocational agriculture as we look toward the National evaluation<br>1. High School Youth - Ray Agan, Kansas<br>2. Youth With Special Needs - John Adams, Kentucky<br>3. Post High School Educational Programs - Dale Aebischer, Wisconsin<br>4. Working Youth and Adults - George Ekstrom, Missouri<br>5. Services and Facilities - Leonard Kunzman, Oregon |

Wednesday, June 29, 1966

| | |
|---|---|
| 8:15 - 8:30 | Recapitulation |
| 8:30 - 9:15 | Interstate Project in Evaluating secondary programs in vocational ornamental horticulture - William Annis, New Hampshire |
| 9:15 - 10:00 | Evaluation of a Multi-Occupational MDTA Project - Frank Pearce, Modesto, California |
| 10:00 - 10:15 | Break |
| 10:15 - 12:00 | Small group session #2 - Developing evaluative criteria |
| 12:00 - 1:30 | Noon Break |
| 1:30 - 2:15 | The National Evaluation in Vocational Agriculture - Neville Hunsicker, Chief, Agricultural Education, U. S. Office of Education, Washington, D. C. |
| 2:15 - 2:45 | Reaction Panel and Discussion - Paul Sweany, Michigan, Chr. |
| 2:45 - 3:00 | Break |
| 3:00 - 5:00 | Small group session #3 - Developing evaluative criteria |

Thursday, June 30, 1966

| | |
|---|---|
| 8:30 - 9:00 | Alternatives in Program Planning - Ray Cardozier, Maryland |
| 9:00 - 9:30 | Evaluation and Program Planning - W. Howard Martin, Connecticut |
| 9:30 - 10:00 | Conference Summary |
| 10:00 - 10:30 | Break |
| 10:30 - 11:30 | Program Planning and Vocational Education - Robert Taylor, Director, The Center for Vocational and Technical Education, Ohio |
| 12:00 - 1:00 | Noon Break |
| 1:00 | Conference closes |

# PARTICIPANTS

| State | Name | Position |
|---|---|---|
| Alabama | R. A. Baker | Teacher Education, Auburn University |
| | T. L. Faulkner | State Supervisor, Vocational Agriculture Education |
| California | Jerry J. Halterman | Dean of Agriculture, Chico State College |
| | Frank Pearce | Director of Research, Modesto Junior College |
| | Sid S. Sutherland | Professor Emeritus, University of California |
| Colorado | Harold Anderson | Assistant State Supervisor, Agricultural Education |
| Connecticut | W. Howard Martin | Associate Professor of Education, University of Connecticut |
| Washington, D. C. | John C. Foltz | Information Specialist, Future Farmers of America |
| | Neville Hunsicker | Chief, Agricultural Education, Division of Vocational and Technical Education, Office of Education |
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| | Paul Sims | Interstate Printers and Publishers |
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| Kentucky | John M. Adams, Jr. | Supervisor, Agricultural Education |
| | George Luster | Teacher Trainer, Department of Agricultural Education, University of Kentucky |
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| Maryland | Ray Cardozier | Professor and Head, Department of Agriculture and Extension Education |

| State | Name | Position |
|---|---|---|
| Michigan | Clifford Haslick | Consultant, Agricultural Education |
| | Paul Sweany | Professor, Agricultural Education, Michigan State University |
| Minnesota | Harry W. Kitts | Agricultural Education, University of Minnesota |
| | G. R. Cochran | State Supervisor, Agricultural Education |
| Mississippi | O. L. Snowden | Professor and Head, Department of Agricultural Education, Mississippi State University |
| | W. T. Taylor | District Supervisor, Vocational Agriculture |
| Missouri | George Ekstrom | Professor, Agricultural Education, University of Missouri |
| Montana | Max Amberson | State Supervisor, Agricultural Education |
| Nebraska | Alan Kahler | Assistant Professor, Agricultural Education, University of Nebraska |
| | M. G. McCreight | Teacher Educator, Agricultural Education, University of Nebraska |
| Nevada | Howard Christensen | Assistant Professor, University of Nevada |
| New Hampshire | W. H. Annis | Teacher Educator, University of New Hampshire |
| New Jersey | George Lange | State Supervisor, Agricultural Education |
| New Mexico | L. C. Dalton | State Supervisor, Vocational Agricultural Education |
| | Ramsey Groves | Director, Technical Institute for Agriculture, New Mexico State University |
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| | V. E. Christensen | Research Consultant, Center for Vocational and Technical Education |
| | John Crunkilton | Graduate Student, Ohio State University |
| | James W. Hensel | Specialist in Agricultural Education, Center for Vocational and Technical Education |

| State | Name | Position |
|---|---|---|
| Ohio (Continued) | Robert Kerwood | Research Associate, Center for Vocational and Technical Education |
| | Urban Oen | Research Assistant, Center for Vocational and Technical Education |
| | Tom Stitt | Research Assistant, Center for Vocational and Technical Education |
| | Robert E. Taylor | Director, Center for Vocational and Technical Education |
| | James Utzinger | Horticulture Teacher, Pleasant View High School |
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| Oklahoma | Donald D. Brown | District Supervisor, Agricultural Education |
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| | Robert R. Price | Head, Department of Agricultural Education, Oklahoma State University |
| | Jack Pritchard | Vocational Agriculture Teacher and Graduate Student |
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| Puerto Rico | Jose Lema Moya | Assistant Director, Agricultural Education |
| | Juan Robles | Professor and Head, Department of Agricultural Education, University of Puerto Rico |
| Rhode Island | Raymond C. Northup | State Supervisor, Agricultural Education |
| | David F. Shontz | Head, Department of Agricultural Education, University of Rhode Island |
| South Carolina | F. E. Kirkley | Associate Professor, Agricultural Education, Clemson University |
| | L. L. Lewis | State Supervisor, Agricultural Education |

| State | Name | Position |
|---|---|---|
| Tennessee | H. E. Gibson | High School Vocational Agriculture Teacher, Concord |
| Vermont | Garry R. Bice | Assistant Professor, Agricultural Education, University of Vermont |
| Virginia | W. C. Dudley | Area Supervisor, Vocational Agriculture |
| | James D. Oliver | Teacher Educator, Farm Management, Virginia Polytechnic Institute |
| Washington | C. Oscar Loreen | Teacher Educator and Supervisor, Washington State University |
| West Virginia | R. L. Taubert | Program Specialist, Vocational Agriculture |
| Wisconsin | Dale C. Aebischer | Chief, Agricultural Education, Rural Division |
| | William J. Becker | Vocational Agriculture Instructor and Graduate Student |
| Wyoming | James Durkee | President NVATA, Teacher Educator, University of Wyoming |

# PART I

# PRESENTATIONS

## PURPOSES OF THE SEMINAR

by

James W. Hensel
Conference Chairman
The Center for Vocational and Technical Education
The Ohio State University

The Seminar on Evaluation and Program Planning in Agricultural Education provides a timely theme and has been designed to meet one of the most crucial problems that you will encounter in the next few months. The future of vocational agriculture will depend to a large measure upon sound program planning based on effective evaluation of existing educational opportunities.

Evaluation is a high priority topic for everyone involved in vocational education. However, if evaluation is to be fruitful, it must be accompanied by sound program planning.

High quality educational programs in agriculture must be provided for all students at the high school, post high school and adult level. New occupational opportunities are emerging in the field of agriculture which call for innovative planning and leadership on your part. It is essential that education in agriculture keep pace with the advancing technology which affects the lives of our clientele.

Each of us recognize that evaluation is a continuous process--not something we can turn on or turn off at will. However, particular national interest and attention will be focused upon this aspect of educational practice during the coming months as the result of requirements set forth in the Vocational Education Act of 1963.

Vocational education in agriculture has changed significantly in the past several years, but in order to give direction to future programs, it is imperative that leaders take time to examine the new objectives and establish criteria for an effective evaluation.

The Seminar has been planned to provide a sequence of activities which will give us a new insight concerning the evaluation process. The major purpose of the National Seminar is to provide an opportunity for each of you, representing about thirty-six states, to cooperatively examine objectives, evaluate pilot efforts, gain a perspective of the national evaluation plans, share state plans, develop meaningful criteria, and to begin planning future programs in vocational agriculture.

My purpose is to set the stage for the Seminar, and for this reason I would like to be sure you are ready for a vigorous week. I would like to suggest a pre-test to check a very important characteristic. Before you begin any game, it is best to learn the general rules. As the game progresses, you will need to know some of the more specific rules or the finer points of the game. The first rule of the game this week involves eligibility. To be allowed to continue in the Seminar, we must all score high on an evaluation attitude scale. The scale reads from positive to negative. Only those with a high positive reading on the evaluation attitude scale will be able to profit from the discussions to come.

The key to effective evaluation is an open and positive attitude of the evaluation. Evaluation must be viewed as a means to improve the program--a technique for finding the best possible route.

We have the opportunity, the challenge, and the responsibility to initiate some of the most dynamic programs of vocational agriculture since the Smith-Hughes Act came into being. We cannot afford to be traveling with a negative attitude.

There are those among us who say, "Why change? After all, the program has been a success for nearly fifty years. The number of students enrolled this year is perhaps the highest in our history, so we must be maintaining local interest."

Some say "Vocational Educators and Supervisors are running 'scared.' They are afraid to evaluate. The national evaluation has them in a state of panic. Some all-powerful force is conspiring to wipe out agricultural education and evaluation is to be the major weapon of destruction." If we base our future program planning on this kind of thinking, then we are indeed in trouble. Fortunately, this is not the case. Vocational Agriculture is strong and will remain strong, just as long as the leadership remains dynamic.

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The function of vocational education is to serve the objectives of the society of which it is a part. Tremendous technological changes are taking place, and agriculture is one of the leaders. This very attitude of change--dissatisfaction with the old--is a part of society. People buy new cars because they want to change to the new, not because the old one is worn out. Their values are affected by the restless attitude of change which permeates our economy. Some feel this is bad. I suggest that it provides for healthy growth and is one of the reasons why we are the most advanced nation in the world.

But change must take form and direction. In order to give intelligent direction, we must examine our present course--analyze the current market and make some educated guesses as to the future. In short, we must evaluate on the basis of established criteria and plan inspired future programs utilizing the facts as we see them. Failure to read the signs of the times means certain disaster. The Ford Motor Company misread the "straws in the wind" and gambled on the dismal Edsel. They re-read the data and produced the popular Mustang.

Some organizations are bogged down in politics and tradition, or are too slow to meet the needs of the people. The firemen on the railroads are prime examples of a tenacious grasp on tradition and the "good old days."

We say we are different, our program is alive and current with the times. Perhaps this is true, but have we developed the attitude that enables us to courageously and fearlessly examine our own professional activities?

To develop the proper evaluation attitude for this Seminar, it might be enlightening to examine the barriers to sound evaluation.

The barriers as I see them are:

(1) Educators are super-sensitive to criticism. We have a critical clientele, we know we are responsible to public opinion, and we are often upset by individuals who question the worth of our program. We seem to be on the defensive and spend a great deal of time justifying our existence and worrying about the opinions of others.

(2) Tradition plays a large role in the way many educators operate. It is easier to provide certain educational opportunities on a recurring basis and keep the same programs because they have worked in the past. Why take a chance on a pilot program when the traditional approach still seems to be operative?

(3) There are few positive rewards for change in the educational system. A farmer may use a new chemical for weed control because he feels reasonably sure that it will increase his net income. What are the incentives which encourage a teacher to try something new? In reality, the teacher who is always trying out a new idea is looked upon as an odd-ball or some sort of nut. He is often considered a trouble maker and a teacher who does not carry on a "sound" program.

(4) Security is threatened if the program is examined. Educators will draw the curtain of academic freedom, Supervisors will quote the state plan, and teachers will point to the suggested state course of study to avoid exposure through evaluation. Some feel that an evaluation might make them look bad, expose them to unfavorable criticism and perhaps even jeopordize their position. We somehow feel that our professional competence is being challenged if someone suggests evaluation. We tend to look at evaluation from a negative viewpoint.

(5) Uncertainty as to how to go about a legitimate evaluation. There is no easy access to an instrument which will do the job and no one is sure just how to go about it. How do I develop criteria? What are the objectives that can be measured? Who does the work, and, how do I evaluate a program as vast as vocational agriculture?

The five barriers are, in summary:

(1) Super Sensitivity
(2) Tradition
(3) Few Rewards
(4) Threatened Security
(5) Uncertainty

Education evaluation also has its formal and informal sides. Informally, it is characterized by casual observation, implicit goals, intuitive norms, and subjective judgment. Perhaps because these are also characteristic of our day-to-day living, informal evaluation results in perspectives which are seldom questioned by the perceiver. Careful study, however, may reveal informal evaluation to be of variable quality--sometimes penetrating and sometimes superficial and distorted.

In education the formal methods of evaluation have been characterized by check lists, structured visitation by peers, faculty self-studies, and standardized testing of students. Some of such techniques have demonstrable reliability. Unfortunately, when faced with evaluating a program, the inclination is to evaluate informally, to ask the professor or principal, to consider the logic of the program. Seldom is there a methodical search for relevant research reports and to gather behavioral data pertinent to the ultimate curricular decisions. Traditionally, most attention in formal evaluation has been given to certain outcomes. These outcomes might be the competencies or occupational placement and achievement of students following an educational experience.

Evaluation is a broad term. Before you discuss the subject, you need to orient your thinking in terms of the level of evaluation. As the Seminar is structured, we will be discussing each of the three major levels:

(1) National
(2) State
(3) Local

There are also two major viewpoints concerning evaluation. It may be viewed in terms of the:

(1) Process or
(2) Product

Both must be considered and criteria must be developed recognizing each viewpoint.

One of the factors which triggered this Seminar was the fact that there is to be a National Evaluation of all vocational programs as specified in the 1963 Vocational Education Act. The advantages which might come to vocational agriculture through a National Evaluation are many.

First, the worth of an educational program may well be described by an evaluation program. One of the main reasons why vocational agriculture was the first subject area to receive federal funds at the secondary level was because it seemed *practical* to the legislators. I believe this point could and should be expanded through our required national evaluations. We might consider putting a dollar and cents value on our programs and the value returned to the national economy by our graduates. Although that is difficult and cannot be done with complete accuracy, I believe that we are in a much better position to do so than most subject areas in education. The legislators at both state and national levels are clamoring for this type of evaluative data.

Second, the voters of the nation are becoming aware of the great need for vocational education. We must be ready to provide data which will illustrate the value of vocational agriculture. Evaluation will not provide a means to justify a program but it will give visibility to the expanded objectives which we have set.

Third, the process of evaluation acts as a stimulus to improve programs. We must not only ask ourselves to evaluate the road we are traveling, but we must also determine whether there might be a better road. Through evaluation we should not only be able to determine what our programs are, but also to locate the gaps between what we *are* doing and what we *could* be doing.

Evaluation should be a positive act. It must be viewed in a professional light, with the attitude that we cannot improve unless we can identify the strong as well as the weak spots in our program.

We should welcome evaluation as it gives us the opportunity to carefully examine what we are doing, how well we have progressed, how far we have traveled in light of our objectives.

*Our Evaluation Attitude must be positive*. If we approach evaluation with the emphasis on the positive, we will be in a better position to determine when or how changes are to come about. I hope you are prepared for a challenging Seminar.

# OBJECTIVES AND EVALUATION IN VOCATIONAL AGRICULTURE

by
Sid. S. Sutherland
Professor Emeritus
University of California
Davis, California

There are several possible approaches to a discussion of this subject. It could, for example, be discussed from a national viewpoint in light of the mandatory nation-wide evaluation scheduled for 1966-68. On the other hand, we could limit ourselves exclusively to the problems and procedures of statewide evaluations, or go a step further and place emphasis on appraising local programs. However, since participation in this seminar is made up of state level people, it would seem logical to place emphasis today on the problems of those who are charged with the responsibility of administering state programs and give only passing reference to national and local evaluation.

Since the National Vocational Education Act of 1963 provides for assessments and appraisals at five-year intervals, it may be anticipated that evaluation of state and local programs may become a continuous process not only to meet mandatory provisions of the law, but also as a means of quality control of ongoing programs.

The importance of continuous assessment and appraisal to maintaining effective programs of vocational education in agriculture hardly needs documentation. Paraphrasing a statement made by Dr. Grant Venn, "Evaluation must be a continuous process, not a vaccination to make a program immune to the need for subsequent change." There is need, then, for state leadership to develop criteria, standards, procedures, and instruments to be used in making these evaluations, and this, of course, is the primary purpose and thrust of this Seminar.

Now, how do we evaluate a state program of vocational education in agriculture? Do the same principles apply to appraising a state-wide effort as to the evaluation of a single pilot project? Just what is the relationship, if any, between purposes and objectives of a program and the criteria used in evaluating it? Should state leadership be concerned with national objectives or primarily with state objectives? Who should make these evaluations? What use, if any, should be made of lay persons in these appraisals? Should evaluations of educational programs such as ours be made primarily in terms of the outcomes, the results, the products, or primarily with the educational process itself? Should evaluation be a continuous process or done only when necessary to meet legal requirements for financial support? In evaluating our programs, should we be concerned with the economics of these programs, their cost to the taxpayer, to input-output relationships, or can this be ignored or passed over lightly? Should we be concerned with our costs compared with the costs of alternative occupational training programs? MDTA, EOA, Job Corps, private industry, etc.? Should our appraisals be made entirely in terms of what has been done--our accomplishments, or should we also take a look at the total picture of what ought to be done, what needs to be done? Should evaluation be a paper and pencil process consisting of the gathering and analyzing of statistics, or should these be supplemented, or indeed even replaced, by visitations to randomly selected departments to make on-site observations? Finally, why evaluate at all? What is the real purpose of evaluations?

These are at least some, but probably not all of the problems with which you may be concerned in this Seminar and which will form the core of this presentation.

Let me introduce a discussion of these questions by describing an actual training program and how it was evaluated. Somewhat less than a year ago, in August, 1965, the Secretary of Labor requested that a pilot program be inqugurated immediately under MDTA in my home town. The Secretary had denied the request of tomato growers in this area that Mexican workers be brought in to harvest the tomato crop and to fill the gap caused by the demise of the bracero program and to supplement an inadequate supply of domestic labor. The purpose of the training program (and this, of course, is important) was to determine if unemployed domestic laborers could be recruited from the larger cities, trained to pick tomatoes, and if these workers would work in the fields after they were trained. The project was supported by a budget of some $38,000. It involved the cooperation of the State Department of Employment, the Division of Vocational Education, the Bureau of Agricultural Education, the Departments of

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Agricultural Education and Physical Education of the University of California at Davis, the Davis High School District, the County Health Department, and a number of tomato growers. A disinterested person was employed to observe, gather data, publicize, and evaluate this project, and it is from his report and my own personal observations that the facts concerning it were obtained.

The plan called for 500 unemployed men between the ages of 18 and 50 to be recruited from metropolitan areas, brought to a central location, housed and fed in modern labor housing units, and enrolled in a two-week training program which included physical conditioning, recreation, lectures, demonstrations and field practice in picking tomatoes. Trainees were to receive $45-75 per week during the training period, $5.00 daily subsistence, plus $1.00 per day "walk around" or pocket money. The course was planned by members of the department of Agricultural Education at the University of California, Davis, with the cooperation of tomato growers and picking supervisors. Instructors from the Physical Education Department of the University planned and conducted the physical conditioning program. The County Health Department checked the health of the trainees and the sanitary conditions of housing. Local vo-ag and physical education teachers, aided by tomato growers and picking foremen, acted as instructors. Overall administration was in the hands of the principal of the local high school, and a member of the staff of the Department of Agricultural Education supervised the instructional program.

Now as to what happened. The Department of Employment failed to recruit 500 trainees, but did entice about 250 to enroll. There were the usual number of minor foul-ups. The trainees arrived a day later than scheduled, so in one camp 100 meals went uneaten. It was found that there was no legal way to pay the $1.00 per day pocket money to the trainees; all the trainees were not between the ages of 18 and 50; but everyone agreed the training program itself was excellent, the administration was efficient, and there was good cooperation between most of the agencies concerned in the undertaking. The students generally were interested and enjoyed the experience.

Of the approximately 250 who were recruited, 36 dropped out during the program, 14 were expelled for various reasons, 75 were graduated before the close of the program to pick tomatoes, and 117 stuck out the whole two weeks and were graduated at that time. Two weeks after graduation, a follow-up was made to determine how many of the approximately 190 graduates were working in the tomato fields. This was a difficult determination, but the number finally agreed upon by the evaluator and others was 15--15 out of an original 250 entrants and 190 graduates. In the words of the official evaluator, "If we assume that the goal of this program was to determine whether or not unemployed domestic workers could be physically and mentally conditioned to become effective agricultural workers in the tomato harvest, then it must be termed an overwhelming success. If we assume that the goal was to put qualified workers in the tomato fields, it was a dismal failure."

How would you evaluate this program? Success or failure? On what would you base your judgment? How would the success or failure be evaluated by the Secretary of Labor, by the tomato growers, by the administrators, supervisors, and instructors, by the trainees? Measured in terms of input-output economics, it cost $38,000 to train and place 15 workers or about $2,500 per worker. Is that good or bad?

Let us turn now to some of the principles of evaluation, some of the generalizations concerning this process which are generally accepted as basic. In doing so perhaps we can refer back to the illustration just given from time to time and put them in their proper perspective by applying them to this and other specific cases.

The first generalization is this: That evaluation, and particularly evaluations of educational programs, should be made in terms of the objectives (the purposes) of these programs. If the tomato picking program just described was evaluated in terms of its real objective, it was a success; if in terms of other objectives, it was a failure.

In evaluating state-wide programs of vocational education we have several sets of objectives with which we may be concerned. Some of these are stated in the vocational education acts themselves. For example, the overriding purpose of PL 88-210, the Vocational Education Act of 1963, is to train not only for employment, but for gainful employment--"to maintain, extend and improve existing programs, to develop new programs...so that all persons of all ages in all communities of the state...will have ready access to vocational training or retraining which is of high quality, realistic in the light of actual or anticipated opportunities for gainful employment and which is suited to their needs, interests, and ability to benefit from such training."

Another set of objectives, national in scope, has been developed for agricultural education by a joint Office of Education - AVA Committee. These are directed specifically to agriculture, involve six major purposes, and paint with a broad brush the desired outcomes of vocational and technical education in our field. These, too, concern us in state evaluations.

To these may be added state objectives, more specific in nature and statement, involved in connection with annual and long-time programs of work. If state evaluations are made primarily for the purpose of adjusting and improving, then these certainly are of direct and immediate concern to state leadership.

There is a growing interest in the so-called taxonomy of objectives. Dr. Robert Taylor, Director of this Center, pointed out as a member of the Joint Committee on Objectives for Agricultural Education, that we may have "program" objectives as distinguished from "educational" objectives; that is, objectives dealing with "maintaining, improving, and extending" programs, as contrasted with those stated in terms of changes to be made in students.

Educational objectives have been further categorized as either cognitive, affective, or psychomotor by Bloom, Krathwohl and others in their "Taxonomy of Educational Objectives." It would seem that vocational education in agriculture, in common with other segments of education, concerns itself with objectives in all three of these so-called domains.

As the work of this Seminar progresses, you are certain to give repeated attention to both national and state program objectives of vocational education in agriculture. In so doing, however, we must not lose sight of the fact that the primary function of education is bringing about changes in people.

The second principle: Evaluations should include assessments and appraisals of both product and process.

Stated in another way and relating this principle to our field, we should measure and weigh both the outcomes of our programs and the manner in which they are conducted and administered. This would seem to be almost self-evident, but it will come as no surprise to those of you who have participated in accreditation of educational programs in colleges and universities that such appraisals are made primarily of process with product almost completely ignored.

My own bias would be just the reverse of this. It would seem that if we accept the first principle that evaluations are made in terms of objectives, then our first and most vital concern should be with produce, with outcomes, since it is in these terms that objectives are stated.

This bias of mine goes even farther. I am frankly skeptical of the validity of an evaluation of a local department based upon a mass of data concerning the qualifications of teachers, the number of volumes in the library, the annual budget, the excellent facilities, buildings and equipment, class schedules, the methods employed by teachers, and so on ad infinitum, but which gives only passing recognition to the results these teachers are getting.

The third principle: Evaluation should be a continuous process, not just a "point-in-time" judgment. The point has already been made, but will bear repetition that we should be making evaluations of our programs in each state of this nation, not primarily because VEA 1963 makes it mandatory, but more importantly, because periodic evaluations provide us with a basis for adjusting our programs to meet the occupational and manpower needs of the states and because they provide our best means of quality control of these programs. Stated in the vernacular, "How can we tell how far we've gone until we know where we started from, and how can we tell how good we are doin' until we know how bad we were once?"

Therefore, the evaluations in each state should be planned not just to tell us where we are today, but to provide a bench mark for measuring future progress. One weakness of a point-in-time assessment is clearly evident in the example given earlier of the program for training tomato pickers. While two weeks after the close of this program there were 15 workers on the job, three weeks later there may well have been none or 30. A point-in-time evaluation is just like a snapshot. When it is taken it may find you looking good or bad.

Our fourth principle: *Evaluations should be made by teams comprised of both professional and lay personnel.* A good case could be made, it seems to me, for the statement that supervisors and teachers of vocational agriculture in a given state are incapable of evaluating their own state program objectively without outside assistance. Perhaps it is true that the closer we are to a given program and the more we know about it, the more likely we are to find ourselves unable to see the forest for the trees.

The lay public is going to evaluate our programs anyway, and generally on the basis of misinformation or lack of information. Teachers and supervisors who have undertaken systematically to find out just how much the general public knows about their programs have been appalled and concerned at how little they really know and how much they think they know that simply isn't true. As one person put it, "Parents furnish the kids, and the people furnish the money for our programs, why shouldn't they be concerned about how good they are?"

It seems logical, therefore, that our evaluations should be a team effort, with professional personnel undertaking the task of determining the data needed, gathering it and compiling it into a meaningful form, with lay personnel assisting and taking a major part in evaluating and appraising on the basis of these facts.

Referring once again to our tomato picking project, the primary evaluator was not a vocational educator, not an educator at all, certainly not an agriculturist in any sense of the word. It is doubtful if he could distinguish a tomato from a potato vine. He was an editor, printer and publisher. Yet his evaluation was a masterpiece of insight, clarity, and validity.

Principle number five: *Evaluation of publicly supported programs should include economic factors and concern itself with input-output relationships.* In most states, the support for education is the largest single item in the state budget, and vocational education in agriculture is certainly not the least expensive form of education. Therefore, we should increasingly be concerned not only with the excellence of our product, but with its excellence in relation to its cost. Indeed, the national evaluation of vocational education may well make economics the primary focus in their appraisals and turn the spotlight on "what did we get from the dollars we spent?"

Furthermore, vocational education, as supported by the National Vocational Education Acts and carried on by the public schools, is no longer the only federally supported program of vocational education, nor is the public school system the only agency providing vocational education. As you well know, this is a primary thrust of MDTA, Economic Opportunity programs, the Job Corps, and perhaps others, some of which are being conducted by private industry. If the cost of preparing or retraining a worker and placing him in a gainful occupation in agriculture should prove to be greater per unit than that of competing parallel programs, we may be called to account for this, and rightly so. More importantly, it might result in some adjustments in the financial support we receive.

Number six: *Evaluations and appraisals should be made not only on the basis of what has been done, but also on what should have been done.* As this presentation was being prepared a circular came to my desk from the U. S. Office of Education entitled "The Youth We Haven't Served." Its subtitle is "A Challenge to Vocational Education." It doesn't seem necessary to belabor this point, for it is surely evident to you as well as to me, that we have left many things undone, and even perhaps done some things that were of lesser importance. Just one example. What has vocational agriculture done in your state as compared to what needs to be done to serve disadvantaged youth, to retrain adults for employment? Enough said.

Number seven: *The major purposes of evaluation should be to provide quality control and a basis for intelligent change.* The relationship between evaluation and quality control of ongoing programs should be an obvious one. Supervisors are continually making informal evaluations of local programs and using these observations for maintaining the quality of these programs.

All of us, however, recognize the difficulty of inaugurating major changes and are familiar with the resistance such moves may engender. Formal evaluations should provide the facts needed not only as a basis for determining if a change is necessary, but also the direction that the change should take.

Just as many of us fear change, however, many also fear evaluations. From a practical point of view, one of your major tasks as state leaders may be to remove or minimize both of these fears as you move into this process on a state-wide front. The problem of just how to do this may well deserve your attention during this Seminar.

Number eight: (and my last principle) *An evaluation should concern itself primarily if not exclusively with the key indicators of success or failure.* It has long been a personal bias of mine that many evaluations and evaluative instruments were so detailed and included such a mass of minutiae that they simply collapsed of their own weight. It has always seemed to me that we as professionals should be able to identify a few factors which are highly significant and which alone, if studied in depth, would give us a clear picture of how well a program is functioning. There was before me recently an instrument for evaluating local departments of vocational agriculture which analyzed 30 major aspects of local programs, and each major section contained an average of 10 indicators. Should it be necessary to gather data on 300 indicators of success or failure?

Any number of supervisors and teacher educators have said to me that given five minutes in a school and a vo-ag classroom with a class in session, they could appraise pretty accurately just how well that teacher and that department were doing. Do you agree? Then why all this mass of data? Why not use more on-site observations in place of so much paper work or at least to supplement it?

Until recently it was my feeling that few people agreed with my theory of key indicators, but in discussing this with a highly competent and highly trained research specialist the other day, it was learned that researchers are coming to this same conclusion. They call it the identification of "potent variables." In analyzing research data the modern trend apparently is to locate these potent variables, analyze and study these in depth, and give only passing attention if any to those which while they may be interesting, are not really significant. This makes sense to me.

It is my feeling, gentlemen, that this eighth principle may be the most significant contribution that this presentation may make to your Seminar.

I have based my presentation on eight generalizations concerning evaluation in vocational education in agriculture:

(1) That evaluations of educational programs should be made in terms of the objectives of these programs.

(2) That evaluations should include assessments and appraisals of both product and process.

(3) Evaluation should be a continuous process, not just a "point-in-time" judgment.

(4) Evaluations should be made by teams composed of both professional and lay personnel.

(5) Evaluations of publicly supported programs should include economic factors and be concerned with input-output relationships.

(6) Evaluations and appraisals should be made not only on the basis of what has been done, but also on what has not been done.

(7) The major purposes of evaluation should be to provide quality control and a basis for intelligent change.

(8) Evaluations should be concerned primarily, if not exclusively, with the key indicators of success or failure.

These are principles which apply equally to local, state, and national programs.

It is my hope that as you proceed with the work of this Seminar, you may find some small measure of significance in what has been said during the past hour and some small measure of value in the thoughts expressed.

# OBJECTIVES FOR
# VOCATIONAL AND TECHNICAL EDUCATION IN AGRICULTURE

by

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## OBJECTIVE 1: To develop agricultural competencies needed by individuals engaged in or preparing to engage in production agriculture

For me it is a pleasure to have the opportunity of discussing briefly the subject of Production Agriculture as an Objective of Vocational and Technical Education in Agriculture. In discussing this we will refer to procedures and objectives that have been a part of vocational agriculture since its inception in 1917. However, with the broadening of vocational agriculture objectives under the Vocational Education Act of 1963, and with the mandate for periodic review and evaluation of all phases of vocational education a part of that same law, it certainly is appropriate, yes imperative, that we examine our purposes--our objectives.

As points of reference I am listing three items which I feel are fundamental to our consideration of evaluating production agriculture as an objective of vocational education in agriculture. I might well call these "This I Believe."

(1) Farming as America's largest and most basic industry offers opportunities for youth.

(2) Education for production agriculture is a continuing program.

(3) Comprehensive farming programs are an essential part of education for production agriculture.

Now to discuss each of these items.

One important criteria for establishment, continuation, or evaluation of a vocational education program is the opportunity for gainful employment of students. What is the situation regarding production agriculture, which includes farming, ranching, horticulture --all a part of production agriculture? For simplification, I shall refer to these areas as farming.

I am sure that each of you are familiar, as I am, with the data showing that farming --producing food and fiber for our population--is the country's biggest industry, so I won't go into detail on that. But what I am interested in--as an agricultural educator-- is the fact that many people do not know what the situation is regarding opportunities in farming. How many of the students we now have enrolled in high school vocational agriculture will have an opportunity to farm? one in ten? --one in twenty? How often have you heard this--or seen this in print--that only one in ten farm boys, or one in twenty, will have a chance to farm? How many of us know what the actual situation is in our communities if we are teachers, or in our state, if we have state-wide responsibilities in administration or teacher education? If we are to be in a position to plan programs, to advise and counsel students, we must have this information. Let me review briefly with you what we found in one state, that is, in Minnesota, regarding the opportunities for farming for vocational agriculture graduates. Minnesota is predominately an agricultural state. We needed the answer to the question, "Have we been, or are we training far more students than will ever find the opportunity to farm?" If we have been, then certainly we should eliminate some of our programs or we must change our objectives.

In 1964 in order to get up-to-date information and to find out what the actual situation was, more than 20 percent of the vocational agriculture teachers in the state, in cooperation with their students, made detailed surveys of their local communities. The summary of this study showed that each department served a community with an average number of 322 farms. That year these departments averaged ten vocational agriculture graduates. That same year, there was an average of more than eight farms available in each of the communities taking part in the study. With approximately 50 percent of these graduates eventually going into farming, based upon past experience, there were farming opportunities for all boys who planned to enter farming as their vocation. Thus, there were far more opportunities than most people realize. In our state, it has been estimated that only one-half of beginning farmers each year are vocational agriculture graduates. The study substantiates these estimates. This does not take into account the opportunities for full-time hired workers. This is an opportunity I feel we often overlook. Actually, in Minnesota, we are a long way from meeting the need for educated and trained replacements in production agriculture. We, as agriculture educators, do have the responsibility for knowing what the opportunities are for those who elect to take our programs. If we don't have facts we may make the mistake of accepting the misinformation that is peddled to the public--and we ourselves shall be at fault. We should have facts, we should have information we can make available in counseling our students and informing the public. If we don't, we are not meeting our objective as vocational educators and any evaluation of our program should be critical of our procedures. I have seen, during the past two years, numerous studies on opportunities in agriculture occupations but how many on opportunities in production agriculture--the basic industry? Very few.

The next point of "This I Believe," is that education for production agriculture is a continuing program.

In far too many instances vocational agriculture is thought of as the high school FFA program. This thinking is true sometimes of school administrators, editors, the public, and maybe even of some in agriculture education. For those whose objective is production agriculture, the high school FFA vocational agriculture program is important in developing an understanding of the opportunities in farming, in acquiring and understanding skills, techniques and procedures necessary for production agriculture. It also provides opportunity for development of leadership ability and the ability to work together with others in committees and larger groups. With farming programs as an integral part of instruction the student has the opportunity to take that important first step toward establishment in farming--the accumulation of capital investment in the form of livestock, machinery and equipment, crops and other forms of capital.

However, all of this is but the first step in meeting the vocational education needs of our students. For those who remain in the community and continue their progress toward eventual establishment in farming, the young farmer, or as we now term it, the beginning farmer program is designed to meet the needs of this specific group. Further instruction in the understanding and mastery of skills and techniques is a necessary part of beginning farmers' programs. Also, instruction dealing more specifically with sources and use of credit, methods of land acquisition, counseling on use of resources and establishment of long-time plans and goals are more pertinent to beginning farmer education than to the other phases of vocational agriculture education. True, this is in many instances but a continuation of high school instruction. But it is taught in more depth and at a time when it has more direct meaning than in our high school classes. Programs to meet the needs of this group may be conducted by high schools, area vocational-technical schools, or junior colleges.

The adult education program, designed to meet the educational needs of farmers who want to advance, to improve their business and their income can have immediate results. One reason is because the student, in this case the farmer, is in a better situation to make immediate application of the principles, methods or techniques studied. The organization of comprehensive adult farmer programs for the teaching of farm organization and management is a significant recent development in vocational agriculture. A recent study showed that investment in this one phase of agriculture education; teaching adult farmer classes on the basis of farm management, made an immediate return of $30,000 a year to the community over and above the cost of the instructor. There are other returns to the community also, but the monetary is probably the most immediate and striking.

Farming is a complex, rapidly changing industry. New methods, new chemicals, research findings, improved machinery, all require constant study and evaluation. A continuing education program for high school, post high school, beginning and adult farmers are all a necessary part of a comprehensive agriculture education program. Any evaluation of a vocational agriculture program must consider how well we are meeting the educational needs of all the groups we are to serve.

The third item of "This I Believe" has reference to the place of comprehensive farming programs as an essential part of education for production agriculture.

Have we too often given lip service to the place of farming programs in vocational agriculture? Do we say that farming programs are essential and then develop curriculums that are subject matter orientated, with development of a farming program an afterthought? Or worse yet, do our students "study vocational agriculture" and carry a project to meet a qualification? Review the contributory objectives under the major objective of "development agriculture competencies needed by individuals engaged in or preparing to engage in production agriculture" in the new Objectives Bulletin. You will note that there are ten. They are specific--I think they are good. Eight of the ten contributory objectives can only be met through the use of farming programs as a teaching device, through actual application of classroom, laboratory or farm shop study and learning. They are:

(1) Begin and advance in production agriculture
(2) Produce agricultural products efficiently
(3) Market advantageously
(4) Finance successfully
(5) Provide efficient mechanization
(6) Use proper and accurate records
(7) Conserve natural resources
(8) Make effective use of resources

At least three steps are essential in the development of real comprehensive farming programs. They are:

(1) Planning
(2) Operation or implementation of plans
(3) Evaluation

Each of these steps are appropriate and essential whether the farming program be for the high school student or the adult farmer student.

It may be that too often we think of a farming program with the objective of production of a calf, a litter of pigs, or an acre of corn. The teaching value can well be lost with that limited objective. There is tremendous teaching value in providing time and opportunity and direction for careful and detailed planning, step by step, and budgeting before the second step of execution of plans is implemented . Some time ago a vocational agriculture teacher and I were visiting a member of an adult farmer class. Just as we were leaving I heard the farmer remark to the teacher, "I followed your plan and spent the last two evenings figuring out the cost of the new combine. I can't see where it would pay me to buy it. I want to go over this with you when you have time." To me, that was an excellent example of planning, making a decision on the basis of plans and evaluation.

The second step, that of implementing plans, is of special value to the high school and post high school student. This is where the student learns to make decisions, to accept responsibility for these decisions. And don't underrate the value of this learning. Those who can't learn to make decisions and accept responsibility will have to be content that someone else will be doing this for them. And what a handicap this is.

Implementation of plans by high school or post high school students should result in the accumulation of capital--as I have mentioned. We should not overlook the fact that this--the accumulation of livestock, machinery, money, is a condition of employment--which is eventual establishment in a farming business.

Carrying out of the first two steps, planning and implementation of plans, must be followed by evaluation. This may well be followed by more planning and further implementation.

At the high school level in organizing our work, do we plan participation in activities that motivate comprehensive farming programs? Livestock market schools, county or state fair livestock and grain shows, field days, individual fertilizer or variety trials on students' farms, establishment of conservation practices, are but some of the many ways of motivating and making meaningful the farming program the student has as an integral part of his vocational agriculture program. In an evaluation of our work, I feel that consideration must be given to how effectively we teach development of farming programs if the contributory objectives I mentioned earlier are to be met.

In evaluating production agriculture as an objective of vocational agriculture, I would summarize with these points:

(1) Farming or production agriculture does offer opportunity for youth. We have the responsibility for having up-to-date information so that we may effectively counsel our students and inform the public. As vocational educators, we have responsibility for helping in placement for those who want to enter production agriculture.

(2) Vocational agriculture education is not a terminal program. With a complex and rapidly changing industry, we have the responsibility for providing educational programs for high school students, post high school, beginning and adult farmers.

(3) The objectives for production agriculture can only be met by development of comprehensive farming programs as an integral part of all vocational agriculture instruction. This will include the three phases of planning, implementation of plans, and evaluation.

We in agricultural education have been concerned, and rightly so, with the evaluation of vocational education as a result of the 1963 Act. But, let us never forget that we are being constantly evaluated, day by day--year by year, by our public on the basis of the young men who go into production agriculture and remain in the community, and by those who are in production agriculture--the operating farmers.

I hope that in planning and implementing our programs, we never lose sight of this. Also, let's remember that a state program is really the sum total of all local programs in that state.

# OBJECTIVES FOR
# VOCATIONAL AND TECHNICAL EDUCATION IN AGRICULTURE

by

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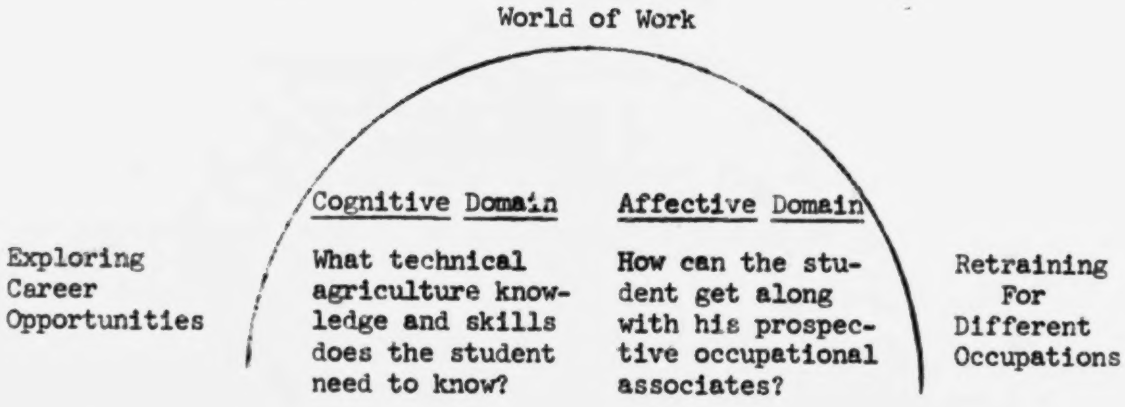
OBJECTIVE 2: To develop agricultural competencies needed by individuals engaged in or preparing to engage in agricultural occupations other than production agriculture

The most general objective of education is that it cultivates excellence. Translated by Bruner,[1] this means the teaching of structure rather than simple mastery of facts and techniques.

Viewing the objectives for vocational and technical education in agriculture from a prospective student's point of view, Figure 1 illustrates the logical sequence of contact with each objective, with the exception of objectives one, two, five, and six. These interact with each other during study of an occupation or family of occupations. The two questions asked in Figure 1 are prerequisites for individual or group actions in any society.

According to Krathwohl and others[2] the affective domain includes educational objectives emphasizing a feeling tone, an emotion, or a degree of acceptance or rejection. This domain relates to the personal aspects of work. More than any of the other objectives, numbers five and six belong to this domain.

Figure 1. ORDERING EDUCATIONAL OBJECTIVES IN AGRICULTURE


World of Work
Exploring Career Opportunities
Cognitive Domain
What technical agriculture knowledge and skills does the student need to know?
Affective Domain
How can the student get along with his prospective occupational associates?
Retraining For Different Occupations

Proposed Objective Order

| | | | |
|---|---|---|---|
| 3. Career Opportunities | 1. Production Agriculture | 5. Human Relations | 4. Adult Education |
| | 2. "Other" Agricultural Occupations | 6. Leadership Development | |

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[1] Bruner, J. S. The Process of Education. Cambridge, Mass.: Harvard University Press, 1963.

[2] Krathwohl, D. R., D. S. Bloom, B. B. Masia. Taxonomy of Educational Objectives Handbook II: Affective Domain. New York: David McKay Company, Inc., 1964.

The cognitive domain includes the remembering or reproducing of information which has been learned. Clearly, objectives one and two belong to this domain. The following guiding principles developed for the taxonomy, apply equally to all educational objectives:[3]

1. The taxonomy (of educational objectives) should be used in regard to existing educational units and programs.

2. The taxonomy should be logically developed and internally consistent.

3. The taxonomy should be consistent with our present understanding of psychological phenomena.

4. The classification should be a purely descriptive scheme in which every type of educational goal can be represented.

Bloom[4] further divides educational objectives in the cognitive domain into six major classes: knowledge, comprehension, application, analysis, synthesis, and evaluation. Much of the content in both handbooks focuses on curriculum construction and program development rather than educational objectives for the individual learner.

This paper addresses itself to a discussion of objective two in the Objectives for Vocational and Technical Education in Agriculture[5] as it relates to the development of criteria for evaluation. The objective is:

> To develop agricultural competencies needed by individuals engaged in or preparing to engage in agricultural occupations other than production agriculture.

Perhaps the purposes of this conference can best be served by a straight-forward delineation of a particular position on the educational preparation for agricultural occupations. This position paper represents only one of several approaches which could be taken on the subject. However, the author shall attempt to logically and systematically put forth four propositions.

The following assumptions generally relate to the content of this paper and specifically to the propositions:

1. Knowledge and skills in technical agriculture exist, can be identified, and can be translated into educational objectives.

2. The selection of specific appropriate objectives contributes to a quality vocational education program in agriculture.

3. Teachers who are best qualified in a subject matter area should select the educational objectives for that area.

Before criterial objectives can be written for programs in agricultural occupations, technical knowledge [illegible] skills involving plant and animal growth principles must be identified. This position is delineated by the following propositions.

1. Before appropriate educational objectives can be identified for agricultural occupations, defining attributes must be assigned to the category.

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[3] Bloom, B. S. (ed), M. D. Englehart, B. J. Furst, Walker H. Hill, and D. R. Krathwohl. *Taxonomy of Educational Objectives, Handbook I: Cognitive Domain*. New York: David McKay Company, Inc., 1956.

[4] *Ibid*.

[5] Office of Education, OE 82011, *Objectives for Vocational and Technical Education in Agriculture*. 12 pp. Washington: Government Printing Office, 1965.

2. The extent of technical agricultural knowledge of plant and animal growth principles best defines the nature of the agricultural occupation.

3. Essentially no difference exists in the nature of the technical agriculture resource units taught to develop competency in agricultural occupations either on or off the farm.

4. Teachers of vocational agriculture are best qualified to teach principles of plant and animal growth.

An important notation to the third proposition is the extent of application of this knowledge in the occupation. The extent of application has important implications for educational objectives. Presumably, an agribusiness employee finds himself in an environment which requires more specific knowledge of particular segments of technical information than most farm managers. For example, a farm supply store employee may need to know extensive information about the limited number of products available for sale by the store. A farm manager needs less extensive knowledge of more products.

This paper shall attempt to establish the need for an affirmative dimension describing both on and off-farm agricultural occupations. The second proposition remains as an assertion throughout the paper. But a construct is proposed, projecting production agriculture effects throughout the agricultural industry.

Principle knowledge of plant and animal growth phenomena provides the best background for most agricultural occupations. The nature or content of this knowledge is the same in all situations. However, the extent to which this knowledge applies depends on the demands of the situation and the particular environment of the agribusiness employee.

## Identifying Agricultural Attributes in Occupations

Bruner and others[6] define an attribute as a discriminable feature of a concept. For example one feature of a table is that it has legs. This feature or attribute may vary from item to item. Some tables have long legs, some tables have short legs. Other legs are round and some are square. But the attribute of having legs identifies a table. According to Bruner, when a discriminable feature is used to infer identity of something, it is a criterial attribute. The legs on a table may be so short that the table is almost resting on the ground. One could say it is much less of a table; but, if one accepts the identifying attribute of a table as having legs, the non-functional legs qualify the object as a table. Criterial attributes are sorely needed to identify agricultural occupations.

Webster[7] defines agriculture as the science or art of cultivating the soil, harvesting crops, and raising livestock. If one includes the knowledge and practices of cultivating the soil for crop production under the category "plant growth," then plant growth and animal growth represent two features describing agriculture. Any specific occupation requires particular kinds and amounts of agricultural knowledge for an optimum level of operation. Criterial attributes identifying agricultural occupations along dimensions of animal science and plant science need to be identified. When these are identified, behavioral objectives may be written for the prospective employee to attain criterian performance.

## Relating Agricultural Occupations

An examination of objective two reveals the phrase "other than production agriculture." Presumably, the agricultural occupations mentioned in the objective are defined by telling what they are not! The terminology of off-farm, non-farm, related, or associated occupations, conveys very little positive descriptive information.

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[6] Bruner, J. S., J. J. Goodnow, and G. A. Austin. *A Study of Thinking*. New York: Appleton-Century-Crofts, Inc., 1960.

[7] *Webster's Third New International Dictionary*. Unabridged. Springfield, Mass.: G. and C. Merriam Company, 1961.

The 1963 Vocational Education Act[8] infers a positive continuum between on-farm and off-farm agricultural occupations:

> . . . amounts allotted . . . for agriculture may be used for vocational education in any occupation involving knowledge and skills in agricultural subjects . . .

This continuum relates to the nature and extent of plant and animal growth principles useful to persons engaged in agricultural occupations. In essence, these individuals extend the effect of raising livestock and producing crops into the industrial segment of the economy. This fact is stated by Webster[9] in his definition of agribusiness:

> "A combination of the producing operations of a farm, the manufacture and distribution of farm equipment and supplies, and the processing, storage, and distribution of farm commodities."

Yet, many generally accepted references such as the Dictionary of Occupational Titles,[10] and the Standard Industrial Classification Manual[11] classify agriculture strictly as a production function. When identifying jobs related to agriculture, the DOT[12] enumerates primarily businesses which supply commodities to farms. Agricultural supply businesses and dairy products plants add value to the raw materials and properly can be considered an extension of the production function.

An effort aimed at structuring man's knowledge in vocational education articulated by Ray[13] places agriculture with mining in the extraction phase of material production. This approach strongly suggests that agriculture is primarily a source for raw materials.

Although not recognized by the above sources, the agricultural industry as a production function in the economy extends beyond the limits of the commercial farm. Figures 2 and 3 represent preliminary advances toward a construct identifying the role of production agriculture in the economy.

The schematic diagram in Figure 3 represents agriculture as a unique industry in the economy, one which fulfills an important consumption as well as a production function. In effect, many agricultural goods and services act as raw materials for farm production units. Entry level occupations in agricultural supply businesses often require a comprehensive knowledge of plant and animal growth processes particularly in the areas of genetics and nutrition. These suppliers of inputs into the farm business represent a different level of concern for agricultural educators than the production agriculture level.

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[8] Public Law 88-210. 1963 Vocational Education Act. 88th Congress, H. R. 4955, December 18, 1963.

[9] Webster's Third New International Dictionary. Unabridged. Springfield, Mass.: G. and C. Merriam Company, 1961.

[10] U. S. Department of Labor, W. Willard Wirtz, Secretary, Manpower Administration, Dictionary of Occupational Titles, 1965, Volume II, Occupational Classification, 3rd ed.

[11] Executive Office of the President, Bureau of the Budget. Standard Industrial Classification Manual, 1957.

[12] U. S. Department of Labor, W. Willard Wirtz, Secretary, Manpower Administration, Dictionary of Occupational Titles, 1965, Volume II, Occupational Classification, 3rd ed.

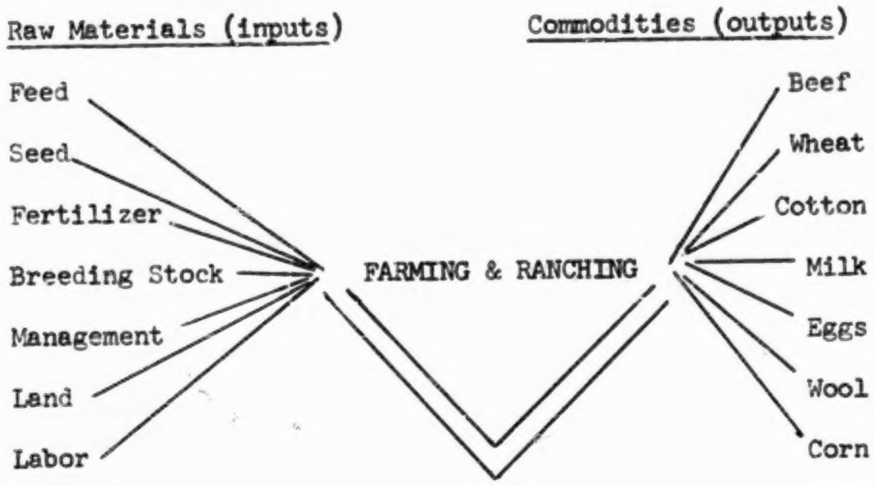
[13] Ray, W. E. "Structuring the Knowledge of Man's Practices." 28 pp. Symposium Paper presented at the American Educational Research Association Annual Meeting, Chicago, Illinois, February 17-19, 1966. (Mimeograph.)

Actually, Figure 3 identifies three levels of concern for the specification of educational objectives relating to agricultural occupations. The first is farming and ranching--production agriculture. Second, the occupations supporting the agricultural industry by supplying inputs to the farm business represent a realistic need for technical agriculture knowledge and skills. Third, the group of commodities destined for the consumer must be processed and distributed. Agricultural educators have a concern for accurate and informative product knowledge reaching the consumer. For example, the housewife will find useful technical agricultural knowledge concerning the color and marbling of beef to assist her in purchasing the freshest quality cuts. The degree of concern for agricultural instruction in the three areas mentioned is directly related to the nature and extent of technical agricultural knowledge required by the persons in occupations representing these areas. Kennedy[14] identified 786 occupations associated with farming and agriculture, but he immediately suggested that these occupations may be ordered on a continuum in terms of the knowledge of farming required or desirable for these occupations.

Figure 2. PRIMARY AND SECONDARY FUNCTIONS IN THE ECONOMY

| | | | | | |
|---|---|---|---|---|---|
| Primary: | Production | | Distribution | | Consumption |
| Secondary: | | Processing | | Servicing | |

Figure 3. THE AGRICULTURAL INDUSTRY



### Principles of Plant and Animal Growth

A taxonomy of agricultural occupations ordered by their need for technical agricultural knowledge must be devised before realistic substantive educational objectives for agricultural occupations can be written. The components necessary for ordering agricultural occupations are available. Competency factor groups[15] have already been designated for many types of agricultural businesses. Table 1 gives the relative competency ratings which agricultural business managers in Oklahoma placed on four areas of agriculture.[16] The Oklahoma Vocational

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[14] Kennedy, W. H. "A Clarification of Relationships Between Farming and Certain Other Agricultural Occupations with Implications for Guidance and Curriculum Development." East Lansing, Michigan: Department of Teacher Education, Michigan State University, 1959. (Mimeograph.)

[15] Summary of Research Findings in Off-Farm Agricultural Occupations. 84 pp. The Center for Research and Leadership Development in Vocational and Technical Education, The Ohio State University, 1965.

[16] Ibid.

Research Coordinating Unit[17] recently published competency profiles for thirty-three agricultural job titles. The next step is the development of attainable occupational objectives which incorporate agricultural knowledge for families of occupations. The notion of supporting education advanced by Stevens[18] clearly relates to the educational preparation of individuals for occupations requiring skills in several areas of vocational education. Vocational agriculture should view itself as a supportive element for many distributive occupations requiring technical agriculture product knowledge. On the other hand, for those occupations which supply and service production agriculture, vocational education in agriculture should assume primary responsibility.

TABLE 1. TECHNICAL AGRICULTURAL KNOWLEDGE AND SKILLS

REQUIRED FOR EMPLOYEE PROFICIENCY IN FOUR

TYPES OF AGRICULTURAL BUSINESSES[1]

| Type of Business | Agricultural Business Management | Plant and Soil Science | Animal Science | Agricultural Machinery and Power |
|---|---|---|---|---|
| Agricultural Supplies: | | | | |
| Management and Sales | high | high | high | low |
| Service | some | high | low | high |
| Agricultural Machinery: | | | | |
| Management and Sales | high | high | some | high |
| Service | low | high | some | high |
| Ornamental Horticulture: | | | | |
| Management and Sales | high | high | low | some |
| Service | low | high | low | high |
| Meat, Milk, and Eggs: | | | | |
| Management and Sales | high | low | high | low |
| Service | low | low | high | some |

[1] Source: Summary of Research Findings in Off-Farm Agricultural Occupations. 84 pp. The Center for Research and Leadership Development in Vocational and Technical Education, The Ohio State University, 1965.

## Incorporating Content Objectives with Learner Experience

The task of any educator, indeed the charge to this Seminar, is the development of evaluation techniques which accurately measure a student's progress toward objectives. The preceding information attempted to develop a rationale, an approach for systematically ordering instructional content relative to specific agricultural occupations. Principles of plant and animal growth pervade all agricultural occupations. Bloom[19] suggests, "Integrative threads based on major topics, ideas, and theories in a subject field tend to yield the organization of the phenomena which seems most sensible to the teacher."

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[17] Job Title Profiles in Off-Farm Agricultural Occupations. 66 pp. Vocational Research Coordinating Unit, Oklahoma State University, 1966.

[18] Stevens, Glenn Z. "Supporting Education Among Vocational Programs," The Agricultural Education Magazine, 38: 256-257, May, 1966.

The reader will recall the notation with proposition three suggesting that extent of application has a great deal to do with learning agricultural information. The context in which knowledge is acquired forms the attitudes and feelings surrounding this knowledge. Dewey[20] recognized the inter-relationship between method and subject matter. He preferred to speak of interaction between an organism and the environment as a single event. Method and goal can not be separated!

Student reactions to classroom instruction depend on past experiences. A student may be considering the occupational objective he listed at the beginning of the year while he is acting the part of an agricultural chemical salesman in a role-playing situation in class.

Consequently, Tyler[21] suggests that education is a process of changing the behavior patterns of people. This is using behavior in the broad sense to include thinking and feeling as well as overt action. Without separating content objectives from attitudinal objectives, behavioral objectives can be written to identify criterion student performance. As illustrated in Figure 4, objectives can be stated in operational terms. A statement of the objective should include both the kind of behavior to be developed in the student and the substantive area in which this behavior is to operate.[22] Behavioral statements of objectives, with implications for both the cognitive and affective domain, become the evaluative criteria for units of instruction or agricultural programs.

The Center report[23] lists the occupational titles needing the greatest number of new employees during the next five years:

Agricultural Machinery Mechanic
Agricultural Machinery Mechanic Helper
Agricultural Machinery Set-up Man
Agricultural Machinery Salesman
Agricultural Machinery Partsman

Agricultural Supplies Salesman
Agricultural Supplies Serviceman
Agricultural Supplies Deliveryman

Greenhouse Grower
Greenhouse Worker
Nursery Worker
Greenkeeper
Groundskeeper

Food Products Processman
Food Products Salesman
Food Products Department Manager

The behavioral objectives for these occupational titles remain to be specified. The Illinois study of off-farm agricultural occupations came very close to this approach when it asked employers what their employees needed to know to perform certain activities in the business.

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[19] Bloom, B. S. "Ideas, Problems, and Methods of Inquire," The Integration of Educational Experiences, pp. 84-104. Fifty-seventh Yearbook of the National Society for the Study of Education, Part III. Chicago: The University of Chicago Press, 1958.

[20] Dewey, John. "In Defense of the Theory of Inquire," (1949) in John Dewey on Experience, Nature, and Freedom. Richard Bernstein (ed.) 1960. New York: The Liberal Press.

[21] Tyler, R. W. Basic Principles of Curriculum and Instruction. 83 pp. Syllabus for Education 305, Chicago: The University of Chicago Press, 1950.

[22] Ibid.

[23] Summary of Research Findings in Off-Farm Agricultural Occupations. 84 pp. The Center for Research and Leadership Development in Vocational and Technical Education, The Ohio State University, 1965.

Figure 4. EDUCATIONAL OBJECTIVE SPECIFICATION FORMAT FOR AGRICULTURAL OCCUPATIONS

Statements of Objectives (Examples)

| Occupational Needs | Operationally Defined | Cognitive Domain | Affective Domain |
|---|---|---|---|
| Agricultural Mechanization | to explain the merits of a diesel tractor | What efficiencies are gained with a diesel tractor on large tracts of land? | The student must appreciate the qualities and limits of a diesel tractor |
| Horticulture | to identify a Pfitzer Juniper | The student must know the descriptive characteristics of a Pfitzer Juniper | The student must believe it is important to identify this plant and be able to communicate its usefulness in a landscape design. |
| Feed Supply Store | to mix the correct amounts of antibiotics in a pig starter ration | The student must either know the correct amounts or be able to use a manual to determine the correct amounts. | The student ought to enjoy being precise and exact with measurements. |

If objectives are stated in operational terms, they become evaluation criteria!

The evaluation of program planning for agricultural occupations becomes more comprehensive and correspondingly more difficult than individual student evaluation. The manner in which the teacher instructs the class affects the attitudes as well as the knowledge of the students. The sequence of events used to teach a concept must be an efficient one. The interaction between the student and the internal conditions in the environment should be planned to achieve the stated educational objective. Tyler[24] suggests some general principles for selecting learning experiences:

1. The student should have an opportunity to practice the kind of behavior implied by the objective.
2. The student should obtain satisfactions from carrying on the kind of behavior implied by the objective.

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[24] Tyler, R. W. Basic Principles of Curriculum and Instruction. 83 pp. Syllabus for Education 305, Chicago: The University of Chicago Press, 1950.

3. The reactions desired in the experience should be within the range of possibility for the students involved.

4. Many particular experiences can be used to attain the same educational objective.

5. The same learning experience will usually bring about several educational outcomes.

Educators must always be aware of the individual needs of students when planning group instruction. All students do not start at the same place when learning additional information. Definite stages in the learning process exist. Although Krathwohl[25] relates the following comment to the affective domain, many of the same student learning processes occur in the concept attainment of new knowledge:

> . . . the clearer it became that a continuum might be derived by appropriately ordering them. Thus the continuum progressed from a level at which the individual is merely aware of a phenomenon, being able to perceive it. At a next level he is willing to attend to phenomena. At the next level he responds to the phenomena with a positive feeling. Eventually he may feel strongly enough to go out of his way to respond. At some point in the process he conceptualizes his behavior and feelings and organizes these conceptualizations into a structure. This structure grows in complexity as it becomes his life outlook.

This paper has attempted to develop a rationale for unifying agricultural occupations along a continuum of plant and animal growth principles. This continuum can be expanded into attributes identifying agricultural occupations.

The second purpose of this position paper has been the delineation of guidelines for educational objective construction leading to statements of substantive objectives specified in behavioral outcomes. Occupational needs of the agricultural industry ought to be merged with the development of agribusiness abilities within vocational agriculture students. Methods of instruction and the consequent statement of behavior objectives will always vary with the ability levels of the students and the particular conditions of the environment. Writing criterial objectives for agricultural occupations continues to require astute observation of industry phenomena and measurement techniques to assess the student's progress toward the substantive goal.

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[25] Krathwohl, D. R., D. S. Bloom, B. B. Masia. Taxonomy of Educational Objectives Handbook II: Affective Domain. New York: David McKay Company, Inc., 1964.

### OBJECTIVES FOR
### VOCATIONAL AND TECHNICAL EDUCATION IN AGRICULTURE

by

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OBJECTIVE 3: To develop an understanding of and appreciation for career opportunities in agriculture and the preparation needed to enter and progress in agricultural occupations

Vocational and Technical Education in Agriculture has reached a stage of development when the achievements of the past are not entirely adequate guides for identifying the opportunities of the future or for indicating how they might be realized. This is a time of transition, in which one of the basic problems is to implement the currently accepted objectives for the future; at the same time, it is essential to maintain that degree of flexibility required in order to adjust to more derisable objectives that are certain to appear in the future.

Dr. Grant Venn, recently appointed Assistant Commissioner, Bureau of Adult and Vocational Education, U. S. Office of Education, certainly had change in mind when he stated:

> I think we have to have a new concept of occupational education. The nature of work has changed so much that we can no longer think of vocational, or technical, or occupational education, as the teaching of a set of basic skills which the individual learns and then is prepared for a place in the work world. This is simply not going to be true because the average person is likely to change jobs during his work life four or five times . . . .

Along with training for these different skills,

> . . . it seems to me that we must be teaching civic understanding and personal understanding and how to get along with one another.[1]

During the past few years much has been written concerning the impact of automation upon employment in our society. Unfortunately, there are no current lucid estimates of the rate at which automation may eliminate jobs in the future. Some predications like those of Ralph Bellman, a computer expert for the Rand Corporation, indicate that:

> Two percent of the population--by implication the two percent at the upper administrative and executive levels--will in the discernible future be able to produce all the goods and services needed to feed, clothe, and run our society with the aid of machines.[2]

At the present time, there is no way of determining if Mr. Bellman's predictions are entirely correct or, if so, how rapidly they may occur.

However, on the basis of what is already known about the scientific and technological revolution it is apparent that there will be numerous employment adjustment problems in the years ahead. Education will have to become much more deeply concerned with the resolution of many of these problems. Somewhat more than two years ago, the late Adlai Stevenson recognized the central role of education in a world of automation when he stated:

> . . . It is the educator, not the engineer, not the businessman, not the union official, not the bureaucrat, who must tell us how to keep our youngsters in school to prepare them for a productive life.[2]

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[1] Venn, G. Needed: A New Relationship Between Education and Work. Speech presented at Kent State University. 1964.

[2] Childs, G. B. Is the Work Ethic Realistic in an Age of Automation? Phi Delta Kappan, Vol. XLVI, No. 8. April, 1965.

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Despite the fact that not all the best Agricultural Education objectives or alternatives for the years ahead may be currently known, our task is to examine the present agreed-upon major objectives, each of which has somewhat distinctive, though related, characteristics and several contributory goals.

It has been frequently stated that our present objectives are projected into a future in which change will inevitably occur. Because of this fact, we should be appreciative that today there are creative and innovative elements at work in the field of Agricultural Education. This is an indication that we are dealing with a growing organism that has vigorous, deeply penetrating roots. I trust that this is also an indication that we have already passed the stage of just trying to avoid obsolescence, and that we are ready to explore and evaluate the essential choices for the most fruitful development of the entire program.

As we concern ourselves with the most effective ways in which Vocational Education in Agriculture can make the best contribution to the youth and adults of our nation and to the societies in which they live, no doubt many additional suggestions will emerge from the group that can help to determine methods of measuring the feasible rates of growth, along the directional paths indicated by the major objectives.

These objectives and their implications all cluster around a central point. That focal point or idea indicates that any measure of success of the Agricultural Education Program must be in terms of its enhancement of human capacities. It is the individual who is being educated. The suggestion has been made, therefore, that we should ask ourselves the following questions: Are we educating and/or re-educating the individual for participation in a changing world of work? Are we striving to produce the informed citizen in a free society? Are we attempting to aid individual growth and fulfillment? In real terms, the test of the success of any educational program will be the quality and the development of its participants and graduates and the contributions they can make to society.

The present objectives may not entirely satisfy everyone concerned, but I believe they do reflect a sound philosophy of Vocational and Technical Education in Agriculture and its relationship to secondary, post-high school and adult education. It will now be up to the personnel engaged in Agricultural Education to select and organize learning activities to develop the objectives, utilizing appropriate principles of learning. As we approach our task, we must not lose sight of the fact that we have an obligation to start serving our clientele at the stage where they now are and not at the place where we wish them to be.

In order to determine how effective educators have been in fulfilling the objectives of a program, it is obvious that the objectives must be clearly understood. One suggestion that may be of value is to think of objectives in terms which identify the people concerned, the kind of behavior or action to be accomplished, and the content or problem area in which this behavior or action is to operate. In examining the contributory goals under major objective number three, it becomes evident that career understandings, appreciations and implications are very important considerations for all students.

### Contributory Objective #1

> "Understand and appreciate the importance of agriculture to the Nation's economy and its impact upon the daily lives of all citizens."

The agricultural industry in America today is certainly of a complex, diversified and changing nature. If we are going to assist youth and adults to develop an understanding of, and appreciation for career opportunities in agriculture it would appear pertinent that we must aid them in comprehending important concepts and salient information about agriculture including: meaning of basic terms; interrelatedness and complexity; importance of agriculture and its effect upon the entire American economy; recognition that education is an investment and that both general and vocational education are essential if individuals are to become competent in the agricultural field; student awareness that educational programs are designed to meet the changing needs of individuals and of the agricultural industry; students' knowledge of the reasons for the efficiency of modern agriculture; and that agriculture is a growth industry.

## Contributory Objective #2

"Determine the types and numbers of occupational opportunities in agriculture."

High school students and many adults often have numerous misconceptions and quite generally a lack of information concerning agricultural occupations. This is understandable because in many communities, these individuals have had little, if any, exposure to information concerning opportunities in non-professional or professional off-farm agricultural occupations. Consequently, these people need to be given the opportunity to understand and appreciate: both on-farm and off-farm agricultural occupations; occupational families and specific occupations or how and why agricultural occupations are classified; types and number of jobs available in each of the major fields annually; characteristics of the jobs; abilities or competencies required; beginning salaries; entry and advancement opportunities; prospects of satisfaction; and the importance of education and training.

Fortunately, many states have now completed partial or statewide surveys which furnish essential information about the available employment opportunities in the off-farm agricultural occupations. This information should certainly be of value in occupational guidance work.

Despite the recent emphasis upon guidance in many of our schools, most youth have actually received little occupational or vocational guidance. In the Journal of Educational Research, Powell and Bloom emphasized:

> Youth are frustrated in the intelligent selection of a vocation because they do not have adequate vocational information; --adolescents have had little vocational counseling; and they are inhibited in establishing long-range vocational objectives because they have not had sufficient professional help.[3]

These comments certainly point to a definite need for more vocational orientation for youth.

## Contributory Objective #3

"Evaluate information concerning agricultural occupations."

Youth and adults need aid in developing an understanding of the information dealing with various agricultural vocations and their possibilities as well as in securing placement for occupational experience. Schools have a responsibility which they must meet.

High school students and adults want and need additional information concerning the basic education required, entry and advancement, job opportunities, age-range preferred, pay scales, sources of information and professional organizations involved. Rauner, in discussing occupational information and occupational choice, concluded:

> In guiding young people towards wise vocational choices, one of the important things to be determined is how much the individual knows about his chosen occupation, because lack of knowledge implies lack of a realistic approach to this most important act of choice.[4]

Youth and adults must be made aware of the importance of "thinking through" many questions such as the following in connection with career exploration: Who is going to decide what is important to me? (my parents, friends, society, or myself?) What criteria should I use in determining what is important for me? (social status, service to my fellow man, personal satisfaction, spiritual growth, creative opportunities?) What moral or ethical considerations will enter into the determination of my sense of values? (honesty, integrity, courage, perseverance, initiative?) What rewards am I interested in? (money, happiness, excitement, a sense of self-fulfillment?) How can I become a useful, productive, happy citizen?[5]

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[3] Powell, M. & Bloom, V. Development Of and Reasons For Vocational Choices of Adolescents Through The High School Years. Journal of Educational Research, Vol. 56. No. 3. November, 62.

[4] Rauner, R. M. Occupational Information and Occupational Choice. Personnel & Guidance Journal 41:4-7. December, 1962.

In appraising information concerning agricultural occupations the youth and adults with whom we work would do well to ask themselves at least the following five questions: When? Where? Who? Why? How?

When was the information published? This is important because of the rapid rate of change in the agricultural field. Where was the research conducted or the information prepared, and is it applicable to my situation? Who was in charge of the research or the information collected? The investigator should be well qualified. Why was the material written? For guidance purposes, entertainment, advertising, or public relations? How were the facts collected, and how were they presented?[6]

These items will aid youth and adults in evaluating information and in studying the agricultural world of work for the purpose of learning what to look for in various occupational areas.

## Contributory Objective #4

> "Study pertinent occupational information in relation to personal characteristics, aptitudes, and interests."

For instruction to be effective, students must be able to discern the relationship between what they are studying and their occupational goals. They must understand how vocational education in agriculture can help in making career choices and in becoming established in those careers. This should lead each student to assess his individual characteristics and to discover his interests and abilities and relate them to the agricultural industry. The emphasis should be on the students' looking at themselves to determine their interests, abilities, likes and dislikes, and to determine whether they have "anything in common" with the agricultural industry.[7] An individual's thinking should be guided towards matching his personal qualities with the qualitied needed in various occupations.

The teacher of agriculture has the responsibility of bringing his students to view their educational and vocational decisions as a means-to-an-end chain; that which is an end now, may become a means for a later goal. Perhaps then occupational information will become more meaningful to the student and his behavior may become more purposeful.

In order for teachers of agriculture to do an effective job with youth and adults a considerable amount of background preparation is required. Pre-service and in-service education must stress understandings and appreciation of occupational guidance information. Prospective and employed teachers should become acquainted with research findings in the field and make use of information such as indicated in the next few paragraphs.

Many investigations reported in the literature have been concerned with the relationships between early student experiences, and attitudes, abilities, interests, and other personality factors which affect the ultimate vocational selection of the individual. Most of these studies agree that meeting a student's basic needs must be a first consideration. Maslow's theory states that higher order needs cannot appear until lower order needs are at least relatively well satisfied. These basic needs include physiological needs, safety needs, need for belongingness and love, importance, respect, self-esteem, independence, information, understanding, beauty, and self-actualization.[8]

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[5] Stern, B. H. What Happens to Rejected College Applicants? Journal of Higher Education 33:7. October, 1962.

[6] Hoppock, R. Occupational Information. New York: McGraw-Hill Book Co., Inc., 1963.

[7] Weyant, J. T., Hoover, N. K., and McClay, D. R. An Introduction to Agricultural Business and Industry. Danville, Illinois: The Interstate. 1965.

[8] Roe, A. Early Determinants of Vocational Choice. Journal of Counseling Psychology. Vol. 4, No. 3.

Tiedeman's article in the Personnel and Guidance Journal suggests:

> Vocational development is self-development viewed in relation with choice, entry, and progress in educational and vocational pursuits. It is a process occurring over time to man who is capable of anticipation, experience, evaluation, and memory. . .vocational development ordinarily occurs within the context of several decisions.[9]

In a discussion in the Journal of Counseling Psychology, Holland proposes:

> . . . at the time of vocational choice the person is the product of the interaction of his particular heredity with a variety of cultural and personal forces including peers, parents, and significant adults, his social class, American culture, and the physical environment. Out of this experience the person develops a hierarchy of preferred methods for dealing with environmental tasks. . .the person making a vocational choice in a sense "searches" for situations which satisfy his hierarchy of adjustment orientations.[10]

In the current issue of the Occupational Outlook Handbook, Dr. Francis Keppel, until recently Assistant Secretary of Health, Education and Welfare, states:

> The individual realizes his highest occupational potential when he develops a career suitable for him and useful to society. He must be cognizant of his abilities, aptitudes, interests, and personality traits and he must also learn about a world of work characterized by changes. Accurate knowledge of both sets of facts greatly increases the probability that an individual will be able to find and maintain his proper place in this vast and evolving occupational complex.[11]

To guard against oversimplification of a complicated procedure, let us help students to think of occupational choice as an extended developmental process resulting from a series of interrelated decisions rather than as a single choice.

## Contributory Objective #5

> "Obtain exploratory work experiences in selected occupations under proper supervision."

Since the inception of the vocational education program on a national basis, some form of occupational experience has been considered essential for all students. As has already been pointed out, agriculture is undergoing a complex scientific and technological revolution which is creating a need for more highly trained workers. New opportunities in agricultural occupations are being found in various fields including marketing and processing of food and fiber, in supplying machinery and equipment, and in providing technical and professional agricultural services.

Youth and adults often know little about either non-farm agricultural occupations or the vast world of work. They must be made aware of the types and values of occupational experiences in agricultural businesses and industries, as well as on farms and in school laboratories, in order to assist them to locate and develop broad areas of agricultural interests.

Exploratory occupational experiences, under proper supervision, should enhance each student's background of occupational information and understanding of the important factors influencing occupations, thus enabling him to develop desirable and satisfying plans for the future. Supervision of these students will aid the teacher in realizing the many ways in which occupations are changing and will emphasize the need for flexibility in student career planning.

Among the guiding principles to follow in the organization and operation of an educational program for agricultural occupations, Fuller suggests that agricultural experience programs:

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[9] Tiedeman, D. V. Decision and Vocational Development. Personnel and Guidance Journal. Vol. 40. September, 1961.

[10] Holland, J. L. A Theory of Vocational Choice. Journal of Counseling Psychology, Vol. 6. No. 1.

[11] U. S. Department of Labor. Occupational Outlook Handbook. Bul. 1450,1966-67 edition. Washington, D. C.: Superintendent of Documents.

1. May include situations that provide learning through (a) employment, (b) observation, and (c) supplementary experience in agriculturally oriented firms.

2. Should emphasize education rather than the "work for pay" motive.

3. Should include a basic core of experiences which relate to units of instruction in the course outline.

4. Should be planned cooperatively by the teacher, pupil, employer, and parents.

5. Should be supervised by a teacher of agriculture.[12]

Exploratory occupational experiences can serve as one means of attempting to overcome at least some of the waste of human resources within our economy. This will involve more flexible educational programs and more meaningful individual counseling. Lester of Georgia suggests:

> Intensification of the development of human resources must be forthcoming by providing unlimited opportunities for youth and adults to gain the education, skills, and experience necessary to become full participants in our society and stable citizens in the years to come.[13]

### Contributory Objective #6

"Appreciate the need for pursuing a program of continuing education to keep abreast of and advance in the occupation."

Ross, the U. S. Commissioner of Labor Statistics recently stated:

> . . . In the face of the current revolution in science and technology as well as in economic and social patterns, the occupational needs of our Nation are changing rapidly. The rate of change seems to accelerate with each new scientific and social development until occupational guidance in career planning and training has become critical.[14]

For several years, it has been increasingly clear that the average worker will change jobs several times during his productive life. Mason and Haines in their recent publication state:

> Although jobs may change, a worker who has mastered the skills of a trade or occupation and who has kept himself abreast of new techniques and developments can reasonably expect to continue in his trade throughout his working life.[15]

Education must be considered a life-long process. We need to provide youth and adults with a solid foundation of occupational experiences and make them aware of their responsibilities for their own self-development if they are to continue to be well-informed about occupations. If our Nation is to cope with occupational change, continuing guidance and continuing educational opportunities must be provided.

Adults, like youth, have areas of need which should be considered in relation to the following statement by Havighurst:

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[12] Fuller, G. R. Education for Agricultural Occupations. Danville, Illinois: The Interstate Printers & Publishers, 1965.

[13] Lester, H. T., Jr. A Guide to Occupational Areas. College of Education, University of Georgia and Division of Vocational Education, State Department of Education, Atlanta, Georgia. 1965.

[14] U. S. Department of Labor. Occupational Outlook Handbook. Bul. 1450, 1966-67 edition. Washington, D. C.: Superintendent of Documents.

[15] Mason, R. E. and Haines, P. G. Cooperative Occupational Education and Work Experience in the Curriculum. Danville, Illinois: The Interstate Printers & Publishers, 1965.

> The most profound educational change of this century is a change of attitude which no longer regards education as essentially preparatory but regards education as essentially a way of meeting the demands and aspirations of the present period of one's life.[16]

Agricultural Education programs must therefore not only provide training in broad areas but also for a sequence of employment opportunities during one's lifetime.

As we examine the stated objectives for Vocational and Technical Education in Agriculture, it is only natural that questions will arise concerning items that need clarification or that have been omitted. The following questions indicate some areas that may merit further consideration:

1. Are the current objectives suitable for programs for the disadvantaged?
2. Should the present objectives be broadened or liberalized?
3. Should we encourage vocational exploration in the elementary school?
4. Are the current objectives based upon the needs expressed by youth and adults?

The program in Vocational and Technical Education in Agriculture must expand and change just as education and agriculture will develop and change. Perhaps the one thing that must remain unchanged is the personal commitment of those engaged in Agricultural Education to provide the educational leadership each generation needs in order to cope with its own problems and opportunities.

Many years ago Evan Pugh, a pioneer educator, made the following statement:

> We too must have a vision, a recognition of opportunity--an acceptance of responsibility--a realization of need--and a sure sense of direction for the future.[17]

It seems to me that this statement has much significance for Agricultural Educators today.

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[16] Havighurst, R. J. Changing Status and Roles During Adult Life: Significance for Adult Education. Sociological Backgrounds of Adult Education. Center for the Study of Liberal Education, Chicago, 1964.

[17] A Vision of Greatness. (Pugh, Evan--a pioneer educator) Pennsylvania State University, University Park, Pennsylvania.

# OBJECTIVES FOR
# VOCATIONAL AND TECHNICAL EDUCATION IN AGRICULTURE

by

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OBJECTIVE 4: To develop the ability to secure satisfactory placement and to advance in an agricultural occupation through a program of continuing education

Objective number four as stated in the new publication Objectives for Vocational and Technical Education in Agriculture is "to develop the ability to secure satisfactory placement and to advance in an agricultural occupation through a program of continuing education." Listed as being foremost among contributory objectives are the abilities to:

(1) Utilize the services of appropriate agencies and organizations in locating and securing satisfactory employment

(2) Analyze opportunities for self-employment

(3) Analyze job opportunities and requirements, and assess personal abilities and interests in terms of these requirements

(4) Apply for employment and participate in employment interviews

(5) Plan and pursue a program of continuing education appropriate to the requirements of the vocation

(6) Make satisfactory progress and advancement in an occupation

Considered in their fullest context, these objectives are concerned with the extent which candidates of vocational and technical education programs are able to make a contribution to the world of work for which they are prepared. Any review of these goals requires that we focus our attention upon the nature of the enterprise we are engaged in. Hopefully, our examination of these objectives here today will serve as the basis for the development of "criteria for evaluation" of this and related topics by Seminar participants during the next few days. An effort will be made to highlight implications derived from these statements which seem to be pertinent to the process of evaluation.

## Main Objective of Vocational and Technical Education

The culmination of all educational efforts in vocational and technical education is the satisfactory placement and subsequent successful tenure and advancement of students in occupations for which they are qualified. As educators, we ought to remind ourselves that the main objective intent of students of vocational and technical education is successful entry and advancement in an agricultural occupation. Admittedly, other important goals are reached as a result of experiences gained in a program of vocational and technical education, but such programs usually succeed or fail in proportion to the accomplishment realized in preparation for the world of work. In keeping with the theme of the Seminar, it may not be too redundant to observe that ours (vocational and technical educators) is the responsibility to really measure how well we have done in conducting programs of vocational and technical education.

The satisfactory placement and subsequent advancement in an occupational position in agriculture implies at least two things. (1) The qualifications of the student and the requirements of an occupational position are very much in congruence; and (2) the level of performance by the employee is acceptable to employer. In short, perhaps more than anything

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else, successful entry means qualification by preparation and advancement means qualification by performance.

Implications for Evaluation--Although all aspects which surround the educational enterprise have a bearing upon the successful realization of this goal, such an objective, considered in its broadest terms, can be evaluated best in terms of overall results and outcomes. Follow-up records of those who terminate their enrollment in the training program, regardless of the reason, seem requisite to such a measurement. Follow-up studies of former students conducted every two to five years and interviews with employers are other ways to secure information useful in making this evaluation.

## Evaluation of Objective 4

To accomplish the task which is before us, if we accept the responsibility that is ours to really measure how well we have done in conducting programs of vocational education, presumes we know what we are supposed to be doing both in terms of conducting educational programs and also in evaluating our efforts and accomplishments.

As we look at the process of evaluation, we are concerned not only with the overall program of vocational and technical education in agriculture as it has been structured for each local state or school--including ways and means--but also in what happens to students in terms of outcomes and results which have been attained. The need for acceptable standards of performance required for effective measurement can be noted here. At the beginning of program planning, expected outcomes need to be carefully analyzed to determine the type of evidence which would indicate objectives are being realized. Methods can be developed for securing evidence which reveals the degree to which the outcomes are attained.

Implications for Evaluation--Objective four deals with the deployment and success of the product of vocational and technical education--i.e., students prepared for the world of work. Evidences are needed which will reflect information in sufficient detail in order that efficiency measurements can be made of various phases of the entire program. Not only is it necessary to measure student achievement but the teaching process, the organizational structure of the program, the role of the supportive services and organizations, and the involvement of the administrative core in the agricultural education program must be evaluated.

## Occupational Opportunities

If we, as educators, accept that the controlling purpose of vocational and technical education is to fit persons for gainful employment and that it is incumbent upon us to provide training and retraining for youths and adults which is realistic in light of actual or anticipated opportunities for employment, then it follows that it is necessary for us to be knowledgeable concerning occupational opportunities in agriculture and the requirements of the agricultural manpower force.

Brief mention of a few trends and some of the dynamics of the present situation will serve to point up the challenge before us.

(1) Increased research activity on the part of private and public agencies has resulted in a veritable technological explosion in agriculture. Technical and scientific knowledge is being accumulated at such a rate that it is impossible for practitioners to make use of such information at any early time.

(2) Increased applications of science to agriculture and the recognition of the biophysical scientific base of agriculture technology has broadened all fields of agricultural endeavor--production, processing, transporting, and marketing.

(3) Greater sophistication and increased complexity of occupations at all levels has resulted in demands on education not heretofore experienced. Shortages of manpower in various categories has been critical. The shift to "know why" as well as "know how" is most pronounced.

(4) Increased urbanization has resulted in and contributed to the movement off the farm of many of the traditional agricultural activities. New agricultural occupations have emerged in the distribution, processing, and service areas.

(5) The rate of technological change in agricultural occupations makes it necessary to continue occupational training throughout the worker's career.

Implications for Evaluation--The instructors are primarily responsible for developing the program in agricultural education at the local level. Valid information regarding occupational opportunities and job requirements is essential to the development of sound vocational and technical education programs. The continual and far-reaching changes which take place in agriculture and the attendant modification in the occupational opportunities in the work force which serves agriculture impose a number of requirements upon the educational enterprise. Instructors, guidance counselors, and professional placement personnel can fulfill their responsibilities in making the student aware of opportunities to the extent that valid occupational information which reflects these requirements is available.

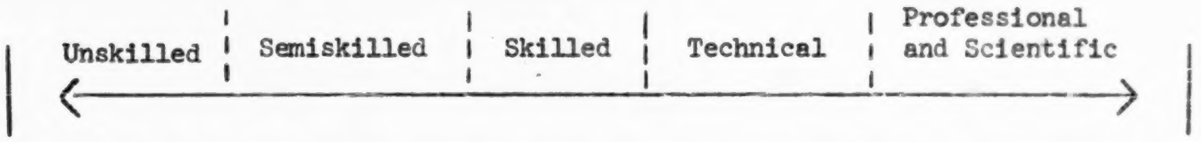
## Level-of-Occupational Preparation

The agricultural manpower force of the nation is dynamic, changeable, and fluid-reacting to forces occasioned by technological advances and exerted throughout all segments of agriculture. Historically, the emphasis has been to increase efficiency of production through adoption of technological innovation. The labor spotlight was first upon the unskilled worker who transformed the vast untapped resources of a new nation into a level of production potential sufficient to anchor the nation well for its future role. Next, the artisans, craftsmen, and skilled workers who adapted and prepared themselves for the mechanical age in agriculture were men of the hour. In recent years, the impact of the atomic and space age has required that attention be focused upon a worker oriented toward technological techniques and processes typically used in automation and remote control systems. Dean and McCorkle predict this high specialization of services will continue in the metamorphosis of the nation's manpower force "use by management of specialists and technicians is widespread in agriculture and will continue to increase . . ., the impact of integration has stimulated the specialization of services in production, processing and marketing."[1]

Almost taken for granted is the role of the scientist and professional worker whose research and investigation into the frontiers of new knowledge make possible the technological advancement.

Persons needed in the agricultural work force can be identified according to their specialized training, distinctive abilities, and level of occupational competence. A continuum of level-of-occupational preparation is suggested.

Level-of-Occupational Preparation Continuum



Placement of workers on this scale is accomplished by means of the following classification guide:

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[1] Gerald W. Dean and Chester O. McCorkle, Jr., Projections Relating to California Agriculture in 1975, Bulletin 778, California Agricultural Experiment Station (Berkeley: University of California, 1961), p. 45.

## Professional Level

That preparation and/or experience for occupations requiring a high degree of mental activity. This generally requires an academic background of several years of formal education in organized courses concerned with theoretical and practical aspects of complex fields of human endeavor, culminating in a baccalaureate or higher degree. A license, registration, or certification is normally needed. Examples include agricultural engineers, soil chemists, plant pathologists, and animal nutritionists.

## Technical Level

That preparation and/or experience for occupations requiring both cognitive (know why) and manipulative (know how) abilities, theoretical and practical understandings, and a high level of job competence; technical preparation normally acquired in specialized post-high school training programs; generally considered as semi-professional preparation to prepare persons to bridge the gap between skilled workers and professional personnel. Examples include surveyor aids, draftsmen, engineering technicians, and sales technicians.

## Skilled Level

That preparation and/or experience for occupations requiring crafts and manual skills, a comprehensive knowledge of work processes, and a high degree of manual dexterity learned to a great extent through work experience and apprenticeship periods. Examples include agricultural mechanics, and plant propagators.

## Semi-Skilled Level

That preparation and/or experience for occupations requiring the exercise of manipulative ability of a fairly high order, but limited to a fairly well defined work routine; typically an operative type activity with the major work reliance upon vigilance and alertness, in situations in which lapses in performances would cause extensive damage to product or equipment. Examples include operators of field crops cultivators, orchard sprayers, harvesting equipment, and pruners.

## Unskilled Level

No formal training or experience required. Work performed is predominantly manual, requiring performance of simple duties that may be learned within a short period of time and which require the exercise of little or no independent judgment. Examples include fruit and vegetable pickers, truck loaders, parts washers, and farm hands.

It should be pointed out that it is not uncommon for tasks once performed by workers qualified at a particular level-of-occupational preparation to be performed at another time by a person qualified at a higher level. This mobility of tasks is primarily in an upward direction with the result being more and higher qualified workers are needed.

The National Committee which rewrote monograph No. 21, revised, has suggested under objective 4 that an increasing number of agricultural occupations require technical or professional education. Further the Committee states that "for students who desire placement at these levels, courses in high school designed to develop vocational competence, supported by other selected subjects, make up a desirable pre-technical or pre-professional program of instruction. Such preparation develops attitudes and abilities which enable the student to complete technical and professional programs successfully."

This position is entirely defensible and justifiable. One of the most interesting aspects accorded to the so-called "Richmond Plan" by Nathan Miller in PTA, April, 1966, was the unique departures from conventional teaching. Author Miller cites two noteworthy approaches in this California plan for vocational education: (1) The courses are pre-technical in title and in nature. A mid-road preparation on the American educational scene is intended--preparation for further training in the vast and expanding field of technology and even perhaps transfer to a four-year college. Alleged is that students have in mind to be something all through the schooling experience, that they can see what the aim of the program is merely by reading want ads; and (2) an interdisciplinary approach is used and lessons in various subject matter areas are taught over the entire range of class experience. This approach gives the student a reason that he can understand for studying, and then the approach arranges his curriculum so that this reason runs through all his courses.

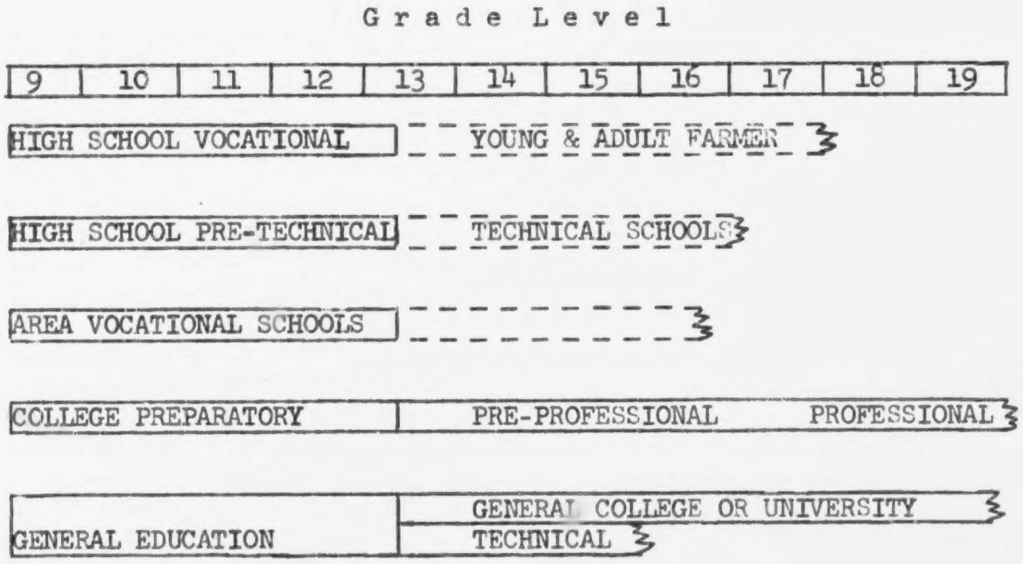
I thought to myself as I read this account--an excellent report of some of the agricultural programs which have been in operation for a number of years.

However, on the other hand, let us examine whether or not we are guilty of some of the allegations directed against vocational education. Edward T. Chase, a leading expert on automation and youth employment, says "that if you visit any vocational school you will find its program incredibly irrelevant to the facts of work in the 1960's. The biggest failure of American education is the way it is turning millions of young people into unemployables." Grant Venn, in his Man, Education and Work, points out (1) that vocational education students are often dropouts of the academic curriculum, and (2) too often vocational education courses do not teach the skills that modern industry wants. Of course these are serious allegations and I suspect they are more valid for some programs in vocational and technical education in agriculture than we are willing to admit. Hopefully, evaluation will reveal weaknesses in regards to these matters if the criteria can be developed which will properly reflect our performance.

Implication for Evaluation--The dynamic nature of agricultural occupations requires that close attention be given to the nature of the work force and that educational programs be adjusted to satisfy these needs. Evaluation procedures should be used to ascertain the level of accomplishment in this regard. Two approaches can be used: (1) the use of a classification guide regarding level-of-occupational preparation; and (2) the use of occupational guides and job descriptions (job analysis).

## VOCATIONAL AND TECHNICAL INSTITUTIONS

A review of the classification guide for level-of-occupational preparation suggests in part at least, the roles of the several educational institutions which serve agriculture education. For many occupations, vocational education in full-time high school classes, followed by part-time enrollment in post-high school classes is sufficient for satisfactory placement and advancement. Students who desire placement in occupations requiring technical or professional education may enroll in high school courses designed to develop vocational competence. A number of patterns for vocational and technical education have evolved. In view of the dynamic nature of agriculture and of our society, diversity, flexibility, and adaptability are needed in all these patterns.



Implication for Evaluation--No single pattern of education can adequately fulfill all of the purposes of vocational and technical education. Evaluation should provide information necessary to adjust, modify, or extend current programs to meet the needs and demands of current technological developments and new social and economic conditions.

## Continuing Education

The ability to advance in an agricultural occupation through a program of continuing education suggests that we recognize that agricultural occupations are exceedingly dynamic, that no educational program should be considered as terminal, and that it is important for students to understand that continuous education will be a normal pattern for agricultural workers at all levels.

Daniel Bell, eminent Columbia University sociologist, in his paper, The Post-Industrial Society discusses the matter of occupational preparation and competence of workers and of the sociological implications this phase of education will have on our society in the future. He observes that as technical competence becomes the criteria for status and affluence, groups of "dispossessed" will be created among those who have lost out in the race-- regardless of educational preparation and that educational opportunities for some groups are not likely to keep pace with technological change.

Those of us in Agriculture Education can well afford to ask ourselves--are we likely to be numbered among those groups Dr. Bell mentions? Indeed the challenge is ours, the task of combating occupational obsolescence is one which we must accomplish. Not only is the problem one of maintaining competence but also one of preparing persons for the acceptance of broader responsibilities--including those of leadership and management.

Implication for Evaluation--Educational opportunities should be available for employed persons to be able to reinforce and extend their occupational qualifications. Educational institutions at all levels can help accomplish this through offering intensive short courses, seminars, special problems, conferences, symposiums, post-graduate courses, part-time faculty experiences, and extension courses.

## Contributory Objectives

Considered rather specifically, Objective 4 and the six foremost contributory objectives suggested in support of the major objective, have to do with finding answers to questions which a young man, engaged in securing a vocational education, might ask at an early point in his schooling. The following points of inquiry seem to be pertinent:

(1) What is the job to which I aspire really like? What are the elements which surround the job and of which it is composed? What are the occupational requirements of the job--spelled out specifically in terms of physical and managerial skills and abilities?

(2) How well do I qualify for the job I would like to have--at the beginning of the training period; at subsequent intervals during the time of preparation? What is my level of competence in regards to the various skills and abilities identified as necessary for occupational entry and advancement?

(3) How do I go about securing and nailing down the job for which I am or will be qualified and in which I will find the greatest satisfaction?

(4) How can I be sure that I will continue to be occupationally competent regardless of the changes which are sure to occur in a dynamic occupation?

Implications for Evaluation--Vocational and technical education should provide for experiences which will assist students to secure the answers to the foregoing questions. Implied are the following matters for consideration by the teacher.

(1) Resources -- What resources are available for use in helping students locate and secure satisfactory placement? How can these and other resources be developed? How can they be used most effectively? What is now being attempted?

(2) Self employment -- Is there provision made for instruction regarding the analysis of opportunities for self employment? Is the student being provided with every incentive to help perpetuate the great American tradition of freedom of entry in and withdrawal from a personal business venture?

(3) Job opportunities -- Is an effort being made to provide valid occupational information to the student during his entire schooling experience by which he can analyze job opportunities and requirements? Is the student being asked to assess his personal abilities and interests in terms of those required for occupational competence? Are these matters being attended to at an early time in order that adequate preparation can be made? Do we sense that, above all, satisfactory preparation is requisite to satisfactory placement and preparation requires extensive planning.

(4) Application for employment -- Has the student become thoroughly familiarized with the mechanics incident to securing a job? Is the student confident that he knows how to properly conduct himself when seeking a position?

(5) Continuing education -- At least two accomplishments should be realized: (1) the student should understand the importance of planning a program and the benefits which derive therefrom, and (2) he should recognize the need to update and retain occupational competency through a program of continuing education.

(6) Progress and advancement -- To progress and advance in an occupation not only fulfills the expectation of the employer but it results in greater self esteem, dignity and human worth to the individual. Improved personal service, of benefit to all, results from commitment and dedication prompted by recognition of worth and need.

## Summary

Gentlemen, the proper evaluation of Objective 4 can result in information which will be exceedingly meaningful to us as we attempt to serve the interests of vocational and technical education in agriculture.

It seems appropriate to conclude this Seminar activity with the remarks of President Johnson upon signing the National Vocational Education Act of 1963:

> "Education is the key to our social and economic and technological and moral progress . . . Modern demands upon labor and industry require new skills and an upgrading of old skills, require more education and greater knowledge . . . Education is the cornerstone of our freedom."

# OBJECTIVES FOR
# VOCATIONAL AND TECHNICAL EDUCATION IN AGRICULTURE

by
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## OBJECTIVE 5: To develop those abilities in human relations which are essential in agricultural occupations

I have been asked to discuss objective Number 5 as a part of our review of all of the objectives as we embark on the development of a program of evaluation. This is Objective 5: To develop those abilities in human relations that are essential in agricultural occupations.

"Human relations" is a new term in vocational agriculture circles. Formerly when vocational agriculture was training for farming, there was less need for attention to human relations. As our society becomes more complex and as we move into the development of training programs for off-farm agricultural occupations, it becomes important to include the concern for human relations in these training programs. The off-farm agricultural occupations are often a part of an industrial type of pattern. These often involve large numbers of employees and a management structure. Here an understanding of human relations becomes a most essential part of management and is, of course, important to employees, too.

Human relations, or interpersonal relations, have not long been of concern to industry. It has only been in recent years that the term has come to prominence. Many circumstances have caused management to assess their obligations and responsibilities to society. Human relations now receive widespread study, attention, and application throughout industry.

A statement made by Robert Wood Johnson, who was chairman of the board of Johnson and Johnson, perhaps represents the general attitude of industry toward its responsibilities:

> The world today is divided by antagonistic philosophies. In great areas the state is supreme and absolute, imposing its rule upon its subjects without their consent. We believe that free men can achieve more than slaves can. But, to implement this ideal, we must accept the responsibilities which go with freedom. We must work together as a team to meet common problems. Cooperation, not antagonism, is the key to achievement. The world is looking to us for an example of what free men can achieve. We cannot fail. The destiny of generations to come is in our hands. We are making history. This is our challenge--and our opportunity.[1]

As we prepare students for the world of work, it is fitting that we place sufficient attention on human relations that they will be able to not only secure employment, but that they may advance in their chosen occupations.

## The Importance of Human Relations

Over the years the understanding of human relations has been of tremendous importance to the individual and to society. With the increased complexity of our society, the understanding of human relations rose in importance. Nearly every person, from the time he arises in the morning until he retires at night, interacts with the people in the family, in business, in school.

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[1] Edward C. Bursk, Human Relations for Management (New York: Harper Brothers, 1956), p. 29, quoting Robert Wood Johnson.

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Harold M. Byram, in Guidance in Agricultural Education, stated that, "The success of the student throughout the secondary school period and out of school is dependent to a large extent on how well he gets along with the other people."[2]

What do we mean by "human relations?" One definition is: "Human relations is the field of applied sociology which seeks to reduce tensions and antagonisms that might already exist or that might arise among various groups and categories of people in a community."[3]

I also found that human relations is sometimes confined to a consideration of face-to-face interactions between individual men and women in their social environment.

It seems that another term has come into common usage and is closely akin to, if not the same as, human relations. This is "interpersonal relations." It is defined as follows: "Interpersonal relations refers to everything that 'goes on' between one person and another (or others) by way of perception, evaluation, understanding, and mode of reaction."[4]

Human relations seeks to find the best way of achieving desired goals with a minimum of needless conflicts. Basic is the respect for the individual and human dignity. Human relations assumes that each individual has certain needs, but that people differ widely in what they consider important.

Abilities in Human Relations--Communications

It is probably fair to say that schools expend as much effort in an attempt to encourage good communication as to any other single area of study. A youngster is concerned with communication as to any other single area of study. A youngster is concerned with communications from the time he learns to speak until he dies. There are many ways of communicating, but we, as educators, dwell largely upon the written and spoken word. Through communications, we make ourselves understood and are understood by others. When we teach penmanship, spelling, grammar, and organization of themes in the grade school, we are developing tools for good communications. We continue this development through our high schools and colleges with a great deal of opportunity for application and practice. It seems quite obvious that the mechanics of communication can and are being taught.

Let us now take a look at some aspects of communication.

William Albig has observed that:

> Underlying all social processes and all societal forms is the transfer of meaning between individuals. Social life can exist only when meanful symbols are transferred from individual to individual. Group activities of any sort are impossible without a means of sharing experiences. In the terminology of the social studies, the process of transmitting meaningful symbols between individuals is designated as 'communication.'[5]

Wilbur Schram points out that:

> . . . even the simplest one-way type of communication always involves at least a source transmitting a message to a destination.
>
> A source may be an individual (speaking, writing, drawing, gesturing) or a communication organization (like a newspaper, publishing house, television

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[2] Harold M. Byram, Guidance in Agricultural Education (Danville, Illinois: Interstate Press, 1959), p. 115.

[3] John T. Zadronzy, Dictionary of Social Science (Washington, D. C.: Public Affairs Press).

[4] Edmund H. Volkart, A Dictionary of the Social Sciences (UNESCO: The Free Press of Glencoe).

[5] William Albig, Modern Public Opinion (New York: McGraw Hill, 1956) as quoted in Gordon McCloskey, Education and Public Understanding (New York: Harper and Brothers, 1959) p. 59.

> station, or motion picture studio.) The message may be in the form of ink on paper, sound waves in the air, impulses in an electric current, a wave of the hand, a flag in the air, or any other signal capable of being interpreted meaningfully. The destination may be an individual listening, watching, or reading; or a member of a group, such as a discussion group, a lecture audience, a football crowd, or a mob; or an individual member of the particular group we call the mass audience, such as the reader of a newspaper or a viewer of television.[6]

Let us examine some common barriers to the transmission or receiving of communications.

The student may not have a clear idea of the information to be transmitted. He may lack precise words or pictures for conveying the intended meaning. The receiver of the communication may not be giving proper attention, and, thus, misunderstand the message; or having heard, he may not interpret it correctly because of previous experiences, prejudices, or worries.

Leving and Murphy report an experiment in which they studied two groups of college students; one group of five pro-communists, the other a group of five anti-communists. Both groups read two paragraphs twice. Fifteen minutes later, they were asked to reproduce the paragraph from memory. One of the paragraphs was mildly pro-communist in content; the other was rather bitterly anti-communist.[7]

The investigators were trying to determine whether the attitude of the subjects had any effect on how much and how fast they learned and forgot material which either agreed or disagreed with their attitudinal biases.[8]

The results of this study show that the attitude of the subject does have an effect on learning and forgetting.[9]

This study as well as more indirect evidence and the indications of the same kind of results in several other studies suggests:

(1) People learn and remember more items in a communication which agrees rather than disagrees with their attitude toward the content.

(2) Over a period of time, the learning of agreeable items increases faster than the learning of disagreeable items; and the forgetting of disagreeable items increases faster than the forgetting of agreeable items.

(3) People tend to perceive a communication and its communicator as favoring their point of view, whatever their point of view might be--at least when they don't know the communicator's viewpoint and when the communication gives equal amounts of favorable and unfavorable information on a particular topic.

The findings discussed present a rather discouraging picture to a person who wants to communicate "his side of the story" to others who may already have the "other side." How can he give people information and have them learn both sides of the story equally well? The studies reviewed say that the speaker won't be successful if he simply asks such people to learn the material, for they will learn more on their own side than on the other.[10]

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[6] Wilbur Schram, The Process and Effects of Mass Communication (Urbana: University of Illinois Press, 1955) as quoted by McCloskey, p. 61.

[7] Michigan State University, National Project in Agricultural Communication, Search, IV, No. 4 (April, 1958).

[8] *Ibid.*

[9] *Ibid.*

[10] *Ibid.*

Face-to-face conversations comprise a large part of the messages transmitted and received by most people. This is true, too, in the world of work where most decisions are based on face-to-face discussions and most instructions and agreements are verbal.

"Actions speak louder than words." While actions are sometimes overlooked as messages, we must recognize their value in conveying impressions and influencing feelings. Acts are real and their results are tangible.

This brief discussion of the communications process should serve to underscore its importance.

Turning now from the more general discussion of human relations, I want to discuss some specifics that I believe are closely associated with or are a part of human relations.

## Attitudes

Attitudes and attitude development are important considerations of vocational educators. Employers are nearly unanimous in their feeling that the attitude of the worker is a most important factor in his success. Teachers, administrators, and curriculum builders are becoming increasingly aware that educational procedures and curriculum content can and do change attitudes.

We might recall that many have paid tribute to the American public school for its job of Americanizing immigrant children from dozens of nations. Certainly, many attitude changes took place in the process.

Attitudes are a vital concern of vocational educators because they affect a student's fitness for various occupational goals. Attitudes may determine whether the individual will like the actual work of an occupation, whether he will find himself among congenial associates, and whether alternative fields of occupations may be identified.

Attitudes also determine a student's fitness for effective and desirable participation in a democratic social order. Attitudes toward social groups, policies, institutions, practices, freedom of speech are all attitudes in which society and schools have a deep concern. Perhaps of greatest importance of all is a student's acceptance of social responsibility.

## Definition of Attitudes

Attitudes may be defined as feelings for or against something. Attitudes are closely associated with emotions. Pleasant and unpleasant associations--fear, rage, love, and all the variations and complications in these emotions brought about by learning play a part in attitudes. Attitudes are not merely mental images, but take on a definite meaning when they are considered in relation to some object, situation, or stimulus. Another characteristic of attitudes is that they have an effect on behavior that may be so great that knowing the attitude enables the prediction of behavior. In other cases social and other attitudinal forces may cause behavior that does not follow the expressed attitude. One example is the pupil who expressed opposition to cheating, but proceeded to cheat on an examination. Attitudes may be learned.

A more specific definition of an attitude is that it is an emotionalized tendency, organized through experience, to react positively or negatively toward a psychological object.

It is important here to recognize certain concepts allied to attitudes. These are interests, motives, values, appreciation, tastes, mores, morality, moral ideals, and character. It is often said that attitudes and interests are for practical purposes identical. One definition of interest is that it is a tendency to become absorbed in an experience and to continue it. The similarity to attitude, I believe, is obvious.

Motives are related to attitudes in that the latter, with their directionality and feeling tone, constitute an important aspect of motives.

It has been said that attitudes precede and endure beyond motives. Motives are, thus, more specific and temporary. When goals have been attained, motives are satisfied; but the attitude, or the tendency to have the motive, persists from one occasion to the next.

There can be little doubt that attitudes and human relations are closely related. It seems obvious that vocational educators must be fully aware of attitudes, their development, and their measurement.

## Appreciation

How does one develop appreciations in people for various things, concepts, and ideas? Probably the most common effective means are through the development of understanding and through experience. A contributory objective of vocational education in agriculture is the ability to appreciate the dignity of work. To appreciate the dignity of work one needs to understand what work is and how it contributes to the welfare of the individual and to society. Appreciation for this activity through supervised activities is one of the basics that has served vocational education well over the decades.

Henry Borow and C. Gilbert Wrenn state:

> Work is the social act around which each of us organizes much of his daily waking experience and, hopefully, establishes a meaningful and rewarding life routine. One has but to witness the lives of men without work, or of men who lack edifying work--alienated, thwarted, and cut off from the fulfillment of the most human of sentiments, a sense of usefulness and purpose--to recognize the validity of the commonly voiced doctrine that work is, indeed, a way of life.[11]

Work as a virtue has been accepted over the years in America. As our modern production economy has increased, however, there has understandably been less opportunity for an individual to realize ego satisfaction from work. If one is to be honest in discussing work in our society and in providing experiences, he must caution about the situation as it exists in many segments of industry.

Harvey Swados speaks of the "meaningless and degrading nature of work in which a large percentage of our working force is engaged." He worked on an assembly line and found that "the one unifying force among all the men on the line was hatred of their work, contempt for what they did, and shame at their inability to earn their living in a more satisfactory and meaningful way."[12] One must realize that for many, the dignity of work has little meaning.

In spite of the many unfortunate situations in the world of work, a large segment of workers find their work rewarding--there is indeed for many the opportunity for dignity of labor and pride of accomplishment.

Surely work, as we have known it, will change, but jobs and the opportunity to work will be with us in the foreseeable future.

We shall continue to use work as a valuable experience in our education programs. Mason and Haines, in their book Cooperative Occupational Education, have done an excellent job in directing attention to methods of organizing and operating high school level cooperative educational programs. The table following is reproduced to illustrate the many purposes of work experience programs.

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[11] Henry Borow, Man in A World At Work, (Boston: Houghton Mifflin Co., 1964), p. xi.

[12] Harvey Swados, "Work as a Public Issue," Saturday Review, December 12, 1959, pp. 13-15.

### CONTROLLING PURPOSES OF WORK EXPERIENCE PROGRAMS[1]

A. REDUCE DROP-OUT PURPOSES

1. Earn Money
   - to continue in school
   - to keep social standing
2. Cure Maladjustments
   - failure elsewhere
   - low I. Q.
   - behavior problems
3. Control Employment
   - control placement
   - control hours
   - control working conditions

B. SOCIAL DEVELOPMENT PURPOSES

4. Provide Social Experiences
   - appreciate dignity of labor
   - appreciate economic order
   - understand adults
5. Develop Emotional Stability
   - independence from parents
   - build self-confidence
   - sense of "belonging"
   - develop personality and character
6. Aid in Selecting Vocation
   - try-out of interests
   - self-analysis
   - discover talents

C. VOCATIONAL PURPOSES

7. Provide General Occupational Training
   - form work habits and attitudes
   - understand employer and co-workers
   - train for an area
8. Provide Specific Occupational Training
   - in skills, knowledges, judgments, understandings, and attitudes

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[1] Ralph E. Mason and Peter G. Haines, Cooperative Occupational Education and Work Experience in the Curriculum (Interstate Printers and Publishers, 1965), p. 61.

While Section A and C may have some human relations implications, I want especially to call your attention to Section B, the Social Development Purposes. Here you will note are listed "appreciate the dignity of labor" and "appreciate economic order." These appear to me to be very basic concepts that a worker new to industry will need for rapid adjustment. The next item, to "understand adults" is indeed a worthy purpose and if work experience can make some contribution here, its importance cannot be denied. In spite of the recent strong emphasis on young people, it is still the adults who exert the greatest influence on economics, politics, religion, and society in general. Further, the teenage student is in the complicated process of becoming an adult.

The listings under Item 5, to "Develop Emotional Stability," are also closely related to human relations. While on the one hand there is "independence from parents," there is probably developing a closer association with other adults and an area of adjustment that needs recognition. To "build self-confidence" and to "develop a sense of belonging" are important psychological traits and can contribute much to the well-being of the young employee. The importance of the "development of the personality and character" probably need little further comment.

Item 6, to "Aid in Selecting a Vocation," has, of course, guidance implications. This topic has to do with "trying out interests," "self analysis," and "discovery of one's aptitudes and talents." Such processes, of course, are basic to establishing a sense of direction and for at least a tentative choice of vocation. Note, too, that attitudes and interests receive mention.

I expect that if one were to list the benefits of a work experience program for an individual, it would have a pattern similar to that of the purposes. It seems quite evident to me that the work experience program can and will make important contributions to the human relations aspect of vocational education.

## Other Traits Desired

Here are comments of three different personnel directors of large firms that employ a great number of people each year. The directors are enumerating the qualities that they like to see in their employees.

> . . . Obviously we are interested in the kind of education that develops such attitudes as thoroughness, which is characterized by the habits of checking one's own work; following up carefully on matters that take time to get results; initiative; ability to take criticism; tact and courtesy, ability to work closely with a group without jealousy or desire to seek individual credit; a definite attitude of public service; loyalty to one's company and employer; and all the other attributes of good citizenship.
>
> It is important to point out that most people lose their jobs in business not because of not knowing, but because of some social attitudes or temperament factor that interferes with either their happiness or the smooth working of the group of which they are members.[13]
>
> . . . The vocational traits most desired, in order of importance, as indicated by the replies, are as follows:
>
> 1. Accuracy
> 2. Responsibility
> 3. Dependability
> 3. Intelligence
> 4. Courtesy
> 4. Initiative
> 4. Judgment
> 5. Tact
> 6. Personal pleasantness
> 7. Interest in work
> 7. Speed
> 8. Adaptability
> 8. Neatness
> 9. Memory
> 10. Poise
> 11. Honesty
> 11. Industriousness
> 12. Loyalty
> 13. Alertness
> 14. Ambition
> 14. Foresignt
> 14. Thoughtfulness
> 15. Thoroughness[14]
>
> . . . However, the basic requirements that we seek to discover--in addition to the fundamental characteristics of honesty, industry, and loyalty--surround such matters as these:
>
> Is he or she prompt?
> Does he understand instructions and retain them?
> Is he accurate and dependable?
> Does he require constant supervision?
> Does he set a good example in conduct, appearance, and attitude?

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[13] Robert D. Falk, Your High School Record, Does It Count? (South Dakota Press, 1958), p. 6.

[14] Ibid., p. 13.

> Does he recognize what is beyond his scope?
> Does he refrain from assuming too much authority?[15]

As illustrated in the above quotations, employers have quite a definite idea of the traits that they like to see in their employees. Many of these are closely associated with human relations and need to be the concern of the vocational educator. Many of these traits fall within the area of attitude development, communications, and work habits. Others, such as poise, judgment, honesty, and ambition are less tangible.

## Traits Discussed in the Human Relations Module

Many of the traits that are important in vocational education are discussed in this module.[16] I quote briefly from this excellent material under each of several headings.

Loyalty:

Loyalty implies support of a cause, ideal, practice, or custom. It includes an element of faithfulness to a person or organization.

Loyalty takes time to mature and grow. It is the product of continued contact with a person or business over a length of time. New employees should not expect to receive it before proving themselves worthy of their supervisor's faith and confidence. Likewise, business firms must earn loyalty from their employees. The good will and loyalty which develop between a supervisor and employees or among employees are valuable commodities which are not to be treated lightly.

Respect for Authority:

Authority in agricultural business usually rests in administrative positions which are responsible for production processes. Authority is the power or right to give commands, take actions, or make final decisions.

In some businesses these lines of authority may be closely drawn, with each person carefully guarding his own domain. Large-scale organizations controlling many sub-parts sometimes become bureaucratic. Much valuable company time and effort may be lost by fearful employees, petty jealousies, and status hungry co-workers. Most agricultural businesses are relatively small and uncomplicated. Yet, the concept of respecting your superior is an important one, even in a small business.

Willingness to Learn:

One of the few certainties of life is the likelihood of change. Everywhere we see new products and new techniques taking the places of old ones. Business firms spend a great deal of money on research to find new and better products.

Since "things" change more easily than people, employers usually investigate a prospective employee's willingness to learn new ideas. A person who accepts inevitable changes that occur during the process of living will not spend as much time worrying about them as the individual who does not. Previously held assumptions need constant re-evaluation. Much energy is expended by frustrated, dissatisfied employees. A willingness to change and learn new ways of doing things is a characteristic which we should all cultivate.

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[15] Ibid., p. 69.

[16] One of the twelve modules in the course preparing for entry in agricultural supply, sales, and services occupations listed by The Center for the Study of Vocational and Technical Education, Ohio State University, Columbus, Ohio, is discussed under the heading of Human Relations in Agricultural Occupations.

Cooperation:

Whenever one human being finds himself in contact with another, either on the job, at school, or in the home, personal relations become a factor between the two personalities. Feelings and attitudes between persons affect the goals of the social group. In many cases, the goals of the social group--the church, the family, or the business--can be attained only with the help of individual members. Agricultural businesses operate to make a profit for their stockholders and provide services to customers. Employees should accept these goals and work toward their accomplishment. Whenever you engage in a cooperative enterprise with others, you expect to lose a certain amount of individual freedom in order to benefit the group.

Cooperation means joint action with others in pursuit of common well being.

Cooperation doesn't just happen; it has to be encouraged. An employee who feels rejected by his employer or believes the business is taking advantage of him, is not likely to give up many personal privileges to contribute to company goals or policy. Fortunately, most people desire to belong to groups and want to get along with their fellow employees. Some of the most satisfying employment experiences come from the warm personal friendships which develop between customers and employees, between the employee and the employer, or among employees. These feelings can be so strong that employees dislike being transferred from one location to another, even within the same company.

Honesty:

Honesty is straightforwardness of conduct; it requires a sincere effort from each of us to maintain integrity, fairness, and truthfulness in all situations.

Since we do not always know other person's past experiences and beliefs, we have to be tolerant of their actions. A person may commit a dishonest act unknowingly and be sorry for it later. American people have emerged from the peoples of many nations. Consequently, our society contains persons with vastly different values and ideals.

Responsibility:

Like "honesty" and "loyalty" the term "responsibility" defies any kind of comprehensive and precise description. The actions of a "responsible" person vary with different situations. Many factors influence the "total" personality; a person's previous experience, his attitude toward his supervisor, and so forth. It is difficult to predict responsible behavior because it varies with the motives and aspirations of persons.

A responsible person determines his own acts by carefully considering the consequences of his decisions.

A responsible person is one who is capable of determining his own actions. Responsibility implies an ability to foresee the consequences of actions.

Leadership:

Leadership is exhibited by a person who directs, commands, or guides a group or activity. A leader often exerts influence by persuasion rather than by force.

An important quality of leadership is accuracy. Few groups of individuals will follow a person with false ideas. If you desire to influence others, concentrate on facts and make definite statements only when you are certain you are right. A leader must accept responsibility for influencing other people. If a leader directs a group to take certain action, he is more responsible for the consequences of that action than are other members of that group. Many persons do not like to accept responsibility and shrink from tasks of leadership.

Morale:

Morale is the prevailing mood and spirit which permits dependable performance and steady self-control. Someone has paraphrased it as "how I feel about my job at any given time."

Morale is a state of mind of employees, growing out of their work conditions. It includes employee feelings toward supervisors, the company, and other employees.

Each employee can contribute to the morale of the group by paying attention to good human relations principles. Fair and honest treatment of persons as individuals promotes trust and confidence in a group. If you inform people of decisions affecting them, it will dispel doubts and fear of the unknown. Abrupt treatment of groups of people creates suspicion and disregards individual differences.

## Summary

In the foregoing pages I have attempted to show that it is important for Agricultural Education to emphasize training that concerns the human relations aspects of vocations. We need to recognize the role of attitude development and the development of appreciation. We have examined the human relations implications that can be developed through work-experience programs. Many other important factors can determine the degree of success of the employee. Among these traits are loyalty, respect for authority, willingness to learn, cooperation, honesty, responsibility, leadership, and morale.

With respect to how these traits are to be taught, I can only add that a great deal depends on the teacher in the classroom and how well he carries out his full responsibility in developing the whole person for his role in the world of work. I would further suggest that the capable teacher, through his actions and examples he sets, can do much to develop the human relations skills which we desire in our graduates in agriculture. I would caution that we must avoid so overburdening our teachers with numbers of students and with extraneous tasks that they are unable to do what they could do if given the opportunity.

I would conclude this discussion by hoping that we might continue to improve the development of human relations abilities in our students. We can be proud of our progress in teaching technology. To better prepare young people for an increasingly complex society, suggests that we take a greater part in teaching human skills as well.

As for the evaluation of our efforts in teaching human relations, I would observe that this task is very complex. Great care must be observed in developing meaningful evaluative criteria for teaching human relations in vocational education.

# OBJECTIVES FOR VOCATIONAL AND TECHNICAL EDUCATION IN AGRICULTURE

by
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OBJECTIVE 6: To develop the abilities needed to exercise and follow effective leadership in fulfilling occupational, social, and civic responsibilities

As stated . . .

"In a democracy, every occupational area functions in a complex social setting. There is need for developing constructive, effective leadership abilities in all persons. Modern agriculture demands individuals who can provide leadership in developing programs and policies that will create and maintain an optimum climate for agriculture consistent with the general welfare. Participation in intracurricular activities of the vocational agriculture student organization (Future Farmers of America) develops individual leadership and stimulates students to set and achieve worthwhile vocational goals. A national organization with state and local units provides a practical laboratory for developing democratic leadership, cooperation, and good citizenship."

We are familiar with the common expression "Leaders are born, not made." The philosophy inferred in Objective 6 is the reverse of this. Objective 6 is to develop the abilities needed to exercise and follow effective leadership in fulfilling occupational, social, and civic responsibilities.

In reviewing this objective, in evaluating it and in carrying it out in practice, let's examine the meaning of leadership. What is leadership?

Leadership might be defined as that which causes a group of people to work toward some goal or purpose. The quality of this leadership in turn is influenced by three variables: the personality of the leader, the nature of the group; and the problems facing the group. Such leadership, we believe, is not necessarily inherent in an individual but can be developed. We hold the belief in vocational agriculture that leadership, like reading and writing, can be developed through study, practice, and participation. Leadership and teaching may be termed in a direct relationship. The good leader is a good teacher. A good teacher is a good leader Teachers help their students through experiences which bring changed minds and motives. A good teacher is never a boss, instead he is a guide helping to motivate a student's interest in accomplishing a particular goal. This is no less true of the good leader. One concept of leadership then, is the act of helping people achieve their goals and purposes.

Now then, with this as a working definition of leadership, let's see how this ability may be developed in students. Again, leadership can be developed in much the same ways that reading and writing are taught, through study, practice and participation. And, like reading and writing, a developer of leaders must know his subjects, and be able to demonstrate leadership himself.

There are two recognized forms of leadership: autocratic and democratic. Practitioners of the autocratic form believe that the end justifies the means; that expediency is the most important thing, not principle; that the individual is not important compared with the "system." Practitioners of the democratic form believe that the individual is of infinite value; that principles are more important than efficiency. People in the United States are generally committed to the democratic form of leadership. We believe that the democratic leader is more likely to achieve quality results both in process and in results.

The quality of leadership is also influenced by the nature of the group. Two kinds of groups involved are the immature and the mature groups. High school students are immature because they have not had the experiences in identifying problems, developing plans of action, and foreseeing consequences accurately. The professional educators or teachers have had more experiences, and are likely to have developed value systems missing in the immature groups. The mature teachers must work with the immature students to develop the leadership necessary for the continuation of America's democracy. If this is not done, all groups may tend to become immature, and all leadership may become coercive and dictatorial.

Therefore, the development of leadership abilities can be motivated through the students in group processes of decision making and cooperative methods. The quality of the leadership developed in students will be influenced by the ability of the teacher to affect mature judgments in relation to decisions through cooperative planning. The quality of the leadership under development is also influenced by the problems which the group considers in Objective 6. In this objective, we have the stipulation that vocational agriculture develops the ability to "exercise and follow effective leadership." We believe in vocational agriculture that the ability to lead, and the ability to follow, can be developed together at the same time through the same types of processes and methods in relation to realistic agriculture students.

Aside from the leadership and group-participation experiences the students get in their classrooms, the FFA chapter, which functions as a distinct part of each vocational agriculture program, provides excellent opportunities for the practice of the American democratic notion of cooperative activities. The problems associated with the operation of an FFA chapter contribute to leadership development. These problems, such as the nomination and election of chapter officers; the incentive awards program; the use of parliamentary procedure; participation in "chapter projects"; and the development of public speaking abilities contribute to the process of building mature groups, and developing leadership abilities.

It has been recognized for many years that the FFA chapter is the mainstay of the leadership training program in vocational agriculture. Therefore, the responsibility for carrying through the stipulations of Objective 6 rests strongly upon the FFA chapter to develop mature leaders.

The six contributory objectives listed as pertinent to Objective 6 are in reality areas of opportunity for the FFA to make its major contributions to the vocational agriculture leadership training program.

#1 ...Associate with and become a functioning member of an organization.

Clearly, the organization mentioned is the FFA chapter operated within the vocational agriculture department at the local high school. Recruitment is an important segment of each chapter's activity program. The incentive awards and the merit citations and degrees are all designed as inducements to join the FFA chapter and function successfully in it. The success of these inducements is illustrated in the ratio of FFA members to total vocational agriculture enrollment figures.

#2 ...Identify and participate in desirable activities for developing and improving agricultural leadership.

This is very nearly one of the stated purposes of the FFA organization: the development of leadership and citizenship abilities. The leadership and citizenship can be felt through the agricultural complex, on the farms, in the rural communities, and in the businesses and industries that have agricultural orientations.

The identification for this objective is done by the FFA group itself, in the effort it puts forth on its chapter activities program. The participation is begun by the group when it assigns individual and committee responsibilities. And, it is completed by the desire and determination on the part of individuals and committee members to succeed because of the faith their chapter had in them when their responsibility was assigned. This is the single most important step an individual can make in developing his leadership and citizenship abilities. Even when he becomes an adult, and much later in his life, he will face his responsibilities with the same sense of duty, obligation, and pride that he developed during his FFA membership. In fact, without this sense, he cannot function as a desirable or satisfactory leader or citizen in the United States.

The developing and improving is done by the FFA's use of the mechanics of leadership: parliamentary procedure, committee assignments, officer nominations and elections, orderly debate, intelligent inquiry, public speaking, and many others. The continued practice of these things, with direction and self-evaluation by the FFA group, is the backbone of leadership training.

#3 ...Initiate activities that improve agriculture and the community.

This is one of the basic purposes of the FFA: to design, develop, and carry through cooperative improvement activities and projects. Wherever the efforts of the FFA are directed--in beautification programs, pest control projects, mailbox posts, school ground and equipment projects, and others--the effect has been to "improve agriculture and the community." The effect has also been to improve most favorably the so-called image of agriculture within the local area, and throughout the entire nation. And, incidentally, but none the less certainly, by doing good works the individuals themselves become better citizens.

#4 ...Cooperate for the common good in agricultural and civic activities.

In complying with this objective, the vocational agriculture-FFA program is doing essentially the same thing it is required to do in the previous objective: designing, developing, and carrying through worthwhile improvement projects. It is true, however, that there is something additional in the words "common good" that sets this objective slightly apart. The "common good" can also mean the benefit of the FFA chapter itself, and if it does, then this is the second most important step a group of individuals can make toward becoming mature and able citizens and leaders. This implies using order, and intelligence, among one's own group to solve group problems. No matter how severe or important the crisis may appear, the successful FFA chapter should observe procedure, order, and intelligence in reaching a workable and acceptable solution. It is precisely this quality of which there is an alarming scarcity in the world today.

#5 ...Develop and maintain desirable relationships between rural and urban groups.

Successfully completed and worthwhile chapter activities achieve just exactly this end, and they do it much better than if a public relations program had been started for that specific purpose. Successful FFA chapters are known by their good works; there is nothing better that can be done to build good relationships between "town" and "country" than the continuation of successful activity programs.

#6 ...Participate in the development of local, state, national, and international policies and programs affecting agriculture.

It seems hard, at first, to imagine just how a vocational agriculture-FFA organization in a local high school could do anything to affect national or international agricultural policy making, or even state-level agricultural policy, for that matter. But, with a second look, the reason behind this objective becomes clearer. Policies are made by people, either to enhance people's interests, or to protect people's welfare. Everybody in the world, nation, and state is affected by agriculture and the policies that affect agriculture. They have a vital interest in the production, availability, distribution, and cost of agricultural products. It is, therefore, a distinct part of the vocational agriculture program to make each student-member aware of the various types of agricultural policies, of the intent and purpose of each, of the groups sponsoring and supporting each policy, and of the effects each policy has on the different segments of the agricultural complex.

Policies that have been enacted into law should be examined as critically as possible as to the function and design of the law, and in the group discussion process, each one should be surveyed for possible weaknesses, and improvements should be suggested. There are others, but this single area is approaching critical importance with the increased urbanization of the United States and its law-making establishments. These are the days of what have been popularly called "third generation Americans," meaning that the pioneer spirit, the rural orientation, the agricultural bias, the independent and non-centralized attitude used to build this country will be missing somewhat in leaders of the not-too-distant future. Educators involved with vocational agriculture programs can render a great service to the United States, and the world, if they will assist in developing in the American population a knowledge and an evaluation of agricultural policies, a critical sense of judgment of agricultural law, and an ability and aptitude for agricultural leadership.

"Is the FFA actually training for rural and agricultural leadership? To answer this question one has only to observe and review the records of outstanding members, and other members who are making good as young farmer-leaders in their home communities. Thousands, also, have passed on into the ranks of the Grange, Farm Bureau, and Farmers Union, as well as other agricultural and civic organizations, there to accept and fill creditable places of trust and responsibility while still in their youth. Go into local communities where FFA chapters are located. Observe the interest and achievement of FFA members in improving the community in which they reside."

This quote is from a book on leadership by a man sold on the FFA's ability to develop agricultural leaders. And, what he says is true. He could have said much more, such as former FFA members are now serving our country as Governor, Congressman, Agriculture Commissioner, etc. However, what he did not mention is that what apparently happens in the leadership development process takes place more by accident than by design. It is a fact that vocational agriculture-FFA produces leaders beyond any practical ratio, but it is a fact that most of the leadership training takes place magically, and almost without design. The process of leadership development in vocational agriculture-FFA is an "occurrence," a "phenomenon" that has not yet been explained, rather than a process that can be verbalized and plotted through its course. It does what it does, that much is known, but how it does what it does is not a planned-in function of vocational agriculture-FFA programs, nor has there yet been a definite guide for, or course of study in, something called "Leadership Development." If, as one writer on leadership maintains, it is more important that people learn to use cooperative, intelligent control of their own affairs than it is for them to acquire knowledge, it would seem that a definite plan for leadership development in vocational agriculture is a must if we are to be favorably evaluated.

## THE CENTER PROJECT IN OFF-FARM AGRICULTURAL OCCUPATIONS

by

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I am happy to meet with you this morning and to give you some background information about the work that was done at The Center last year in developing courses in off-farm agricultural occupations. I realize that some of you have attended various meetings where this project was discussed, so I hope what I say today will be somewhat different and will not be too dull or too repetitious. I will go into the various meetings a bit later as I explain the development of the project.

Let me begin by pointing out a few things about agriculture, and more particularly farming, in the United States. I am going to refrain from using a lot of facts. And I will vouch for the accuracy of these facts only in that I drew them from various sources. If you have doubts as to their accuracy, you may check them for yourself. If I arouse your curiosity, and if you check the facts, then to a certain extent I have succeeded in what I propose to do.

About 1950, agriculture, especially farming, really began to change. We know that during World War II our total farm production was increased. And most of us know how much effort was devoted to securing this increase in production. But it was after this war, about 1950, when farm machinery really began to develop, new improved varieties of crops came into being, and new chemicals were developed. Then farming really began to change. The total number of farms and the number of farm workers began to decline rather rapidly. Farms began to get larger. Processing of farm products began to increase. And practically all of this processing was done off the farm. With the decline in the number of farms, our population continued to increase and the number of people employed in businesses other than farming increased. Some people began to say that farming was on its way out. This was in the late fifties or early sixties. You no doubt heard these things. With this decreased emphasis on agriculture, particularly farming, we began to hear the term "agri-business." I believe as early as 1954 or 1955 some of the writers in popular farm magazines were using this term. And some people, I think, began to jump on the bandwagon for off-farm agricultural occupations, with the idea that farming was on its way out. This was a counter-move. This, in itself, was a misconception, because as you realize, the off-farm agricultural occupations have their being in a healthy farming industry. Without a healthy production agriculture (farming), we will have no need for training in off-farm agricultural occupations. The need for training in off-farm agricultural occupations is based upon farming.

We do have a rather healthy farming situation now, despite what some say. Agriculture is still our largest single industry, by far. Agriculture provides employment for more people than does the automobile and steel industries combined, and you may add all transportation and public utilities. More people in farming than in the automobile and steel industries combined, plus transportation and public utilities!

At present, the total agricultural assets in our country are estimated at more than 230 billion dollars. This is two thirds of all the assets of all corporations in the United States. Farmers spend 30 billion dollars each year for production supplies. They use annually 28 billion kilowatts of electricity. Now, this is more electricity than is used by all of these cities combined: Baltimore, Chicago, Boston, Detroit, Houston, and Washington, D. C. So you see, farming is no small industry. In addition to this, farmers use 5 million tons of steel in farm machinery each year.

Farming is an efficient industry. The output per farm worker has increased at about 7½ percent per year since 1950. This is almost three times the increase in output per worker from industry for the same period.

One farmer in the United States produces enough to feed himself and about thirty-seven others -- thirty-two Americans plus five people abroad. Some of the arguments that agriculture is declining in importance are not valid. Let's compare farmers with doctors.

If one doctor serves 500 people, and another serves 5,000 people, which doctor is more important? All of you will say the one who serves 5,000 people. Some years ago, a farmer produced enough food for himself and eight to ten others (it depends upon how far you go back). Now, each farmer feeds himself and thirty-seven others. Is this a sign of a declining industry?

We hear much about the reduction in the number of persons engaged in farming; and this is true. And we hear much about the decline in the number of farms; and this is true. But, if you analyze the decline in the number of farms, you get a different picture. When you divide farms into four types, you will find that from 1947 until the present, two of these groups have actually increased in number, one has changed but little, and the other has declined. Let me explain these four types of farms.

The first type is the non-commercial residential or part-time farm. These farms have changed very little in number since 1947. The giant or corporation farms have increased in number since 1947. Likewise, the family farms with gross sales of over $5,000 per year have increased in number. (These are, for the most part, the commercial family-sized farms that produce most of our farm products.) The big decline in number of farms since 1947 has been in the sub-standard farm, with sales of less than $5,000 per year. So you see this change in farm numbers is in itself a sign of a healthy industry.

No one would say that food distribution is less important today than it was ten years ago. And yet, we all know that the number of retail stores involved in food distribution has been declining in number. With this decline retail food stores have become larger. Now a few large chain stores do the bulk of our food distribution at the retail level. Then the argument that farming is becoming unimportant because the number of farms and the number of farmers have been declining is not at all valid.

I am not going to tell you men that farmers have an easy job or that all farmers are prosperous. You know this is not true. To remain in business today, a farmer must be efficient in production. But as the population increases, the demand for farm products also increases. And despite our production potential, I think farming is in a healthy condition and will remain this way. I believe the outlook for farming is bright. If this is true, then the need for off-farm agricultural occupations in the future will increase, and the prospects for work in this area are also bright. If farming is not important, then off-farm agricultural occupations will not be important either. When we say that we should provide training programs in off-farm agricultural occupations in areas where farming is not important, we are just kidding ourselves.

Let me use some Kentucky figures, because I am somewhat familiar with them, to illustrate the healthy condition of farming. In the past ten years, cash sales from farming in Kentucky have increased from 589 million dollars to 744 million dollars. This is an increase of 155 million dollars, or 26 percent. Someone will say, "Well and good, but this is due to inflation." And there has been some inflation in the past ten years. In 1954, the index of production commodities purchased by farmers was 255. In 1964, this index was 270. This is an increase of 15 in the index, or 6 percent. Whereas farm marketings increased 26 percent, purchased production items for the same period increased 6 percent. And this picture is perhaps even better when we look at the decline in the number of farm workers during this period -- one of the so-called measures of the decline in farming according to some people. In 1954 there were about 250 thousand production workers in farming in Kentucky. In 1964, this number showed some decline, but it was not striking. Farm workers in 1964 numbered 230 thousand -- a decline of 20,000 farmers in ten years. Thus from the efforts of 8 percent fewer people, the cash farm marketings in ten years increased 26 percent, with only a 6 percent increase in purchased production items. Does this seem to be a sign of a declining industry? I feel that many business corporations would be glad to have a report like this. So much for the importance of farming and agriculture.

How about the national project to prepare courses in off-farm agricultural business? In 1963 and 1964, two meetings were held here at the National Center for professional persons in agricultural education from some twenty-three states. These people looked at the status of farming, and the agricultural work that was being done off the farms. It was decided that the different states would conduct studies to try to discover the status of off-farm agricultural occupations to make projections for future needs for employment. They sought to determine training needs in each occupation to determine the extent to which agricultural competencies were needed in off-farm agricultural occupations.

The Center proposed to stimulate the states to do research, to coordinate their efforts, to produce materials to assist with needed programs on a pilot basis, and to serve as a clearing house for this work. In 1965, after some studies had been made in several states, The Center began work to combine and analyze these studies. Dr. Stevens from Pennsylvania State University was employed to take the lead in this work; and I believe he began working at The Center early in 1965. Despite what Dr. Hensel said about my work with the project in his introduction, my work was really quite limited. It actually involved fewer weeks than most of the people worked who will be on the panel later. I worked with the project about six weeks in all, over a period of about two and a half months. Some of the people worked considerably longer than this.

Dr. Stevens, after combining and analyzing the studies, made several recommendations. I wish to emphasize three of these which are listed in the publication which he prepared. First, about half the people engaged in off-farm agricultural businesses needed training in agriculture. Sometimes you hear this point carried to the extreme. I heard a man in Louisville, not too long ago, discuss this topic and he suggested that the girl who worked at the dairy freeze needed some knowledge of agriculture because she dipped ice cream. I think this is going a bit too far, but it is reasonable to believe that many people in off-farm agricultural occupations do need competencies in agriculture to perform their work. Dr. Stevens found that employers generally expected about a 20 percent increase in the number of workers needing agricultural competencies in the next five years. The third observation to which I will refer is that the areas of greatest need for workers in off-farm agricultural occupations seemed to be in agricultural sales and service, agricultural machinery, and horticulture. There were also needs in food processing.

A staff was assembled in 1965 to develop courses in the three most needed areas to be used by anyone, anywhere in the United States, who would develop a pilot program. (A course in a fourth area -- agricultural chemicals -- was to be developed later.) In the area of horticulture, James Utzinger, from Ohio, developed the course. In agricultural sales and service, the work began with Howard Nowels, a teacher of vocational agriculture in Ohio, but unfortunately Howard had some health problems and had to give up the work. Then Bill Becker from Wisconsin came to develop this course in agricultural sales and service. Later, Dr. Lintner, from Ohio, also helped with the course. So, three people worked on this course with Mr. Becker and Dr. Lintner making major contributions. In agricultural machinery and power, Alan Kahler, then from Iowa but now in Nebraska, developed the course.

One of the big problems in developing these courses was to determine the format or form that the courses should take. It was in this area that I did most of my work. However, I certainly did not come up with the format all by myself; all the staff helped. We tried to develop a course format that would be educationally sound and that would be simple to follow. I am not going to explain the course format again, because most of you have been in meetings where it was discussed.

However, I would like to take a few minutes to mention the term "module." It was not my term, but it did come out of this meeting, and some writers in the Agricultural Education Magazine did make some issue of the term. I can define the term, if you like, at least as we understood it. If the term "module" bothers you, use the term "unit." Perhaps there is no difference between the terms -- as Dr. Scarborough wrote in the Agricultural Education Magazine. I believe there is a small difference in the terms, but it is not great. The term "unit" has become very vague in its meaning. It means anything and everything to different people. We have Research Coordinating Units, and here we use the term to designate a group of people or an organization to do a specific work. Writers of books combine different chapters and say their book is composed of units. We use "units" over and over, both in and out of education. I think it is the vagueness of the term that caused us to use "module." Module is the same as unit with perhaps two exceptions. It is new in education and has no preconceived meanings. It comes from the electronics world or the building trade. To pinpoint the difference between unit and module, a module is more self-contained. It is better able to stand alone. However, a module, like a unit, has its being as a part of a course, to attain a major teaching objective. But a module is more completely self-contained than are most units. A module can easily be taken from one course and used in another course, or even by itself if needed. I think you could use the module anywhere, if its major teaching objectives were what you desired to attain with your students. With this attempt to explain the difference in the terms, I "rest the case." I would not like to debate the issue with Dr. Scarborough or anyone else. Use unit if the term "module" bothers you.

Dr. Halterman from California developed the course in agricultural chemicals. This course was developed at the technical level. The other courses were developed at lower competency levels, and all were developed for different groups. This caused some misunderstanding at one of our meetings with the people from industry. The horticulture course was developed for teaching the disadvantaged. That is, persons who are disadvantaged academically, economically, socially, or otherwise. The biggest difference this caused was that Mr. Utzinger developed the horticulture course at a rather elementary level and used many practical, easy-to-follow illustrations. With modifications, however, this course could be used with high school students or even with the post high-school group. But it was developed with the disadvantaged in mind.

At a meeting in March, 1964, with persons from business and industry, some of the people in horticulture became quite disturbed until they understood all the facts. At least they voiced their objectives, because they thought we were implying that all horticulture work was for the disadvantaged. When they understood what we were trying to do, and realized that we felt that there was need for horticulture courses at all competency levels and for all kinds of students, the matter was concluded.

The course in agricultural sales and service was developed at the high school level. It, too, could be adapted and used at other levels. The agricultural mechanics course was developed for the post high-school group; aimed at people who could study full time. The agricultural chemicals course was developed at the technical level for use in junior or community colleges.

In addition to the people who prepared the courses, Ramsey Groves and Jim Christiansen, graduate assistants, had a major part in developing the courses. Dr. Hamlin worked primarily on policies and procedures in getting sound pilot programs in off-farm agricultural occupations started. Harold Anderson worked on getting occupational experience to be a vital part of pilot programs in off-farm agricultural occupations. This task force which prepared materials really did an amazing job, I feel, in a short period of only a few months.

All of these materials are of a developmental nature. They were developed at the national level, and we know that no course or publication can be developed at the national level which will fit all local communities. Neither can a course be developed at the state level which will fit all communities in the state. The materials must be adopted to local conditions. Although the courses were a first attempt and were developmental in nature, I am not apologizing for them. I think these men did an excellent job. I believe the courses are good, but they will have to be adapted by each teacher to meet the needs of his class. We recognize this as much as anyone else, perhaps even more so.

After the courses were largely completed, we had a National Conference here at The Center from May 4 to 7, last year. Some of you may have attended. This conference was devoted to looking at the course materials and discussing the possibilities for their use. Five area meetings followed this National Conference. The primary purpose of the area meetings was to get superintendents, administrators, and teachers to attend, more than professional staff members in the different vocational services. Perhaps more professional staff members than administrators and teachers attended these area meetings. I haven't seen an analysis of the attendance. Many superintendents and teachers did attend, however. The area meetings were held in 1965, last summer, beginning in New York in May, and ending in Atlanta in June. These were held at five different locations in the United States, and the total attendance at these meetings was quite satisfactory.

It was a real privilege for me to work on this program. I really enjoyed the association with all the people at The Center, and especially with these men who did such good, but difficult, work on the courses.

The men who developed the courses visited the programs that they could locate where programs in off-farm agricultural occupations in their course areas were being conducted. They traveled quite widely. We had frequent advisory meetings with professional vocational educators and group meetings with people from industry. We were in contact with representatives from business and industry throughout the development of the courses. I feel that you will agree that in just a few months, these men really accomplished much in getting the courses prepared. If you look at the volume of material and technical information in these courses, I believe you will be quite impressed.

These courses have a lot of technical material or content. I feel that if materials are to be useful to vocational teachers, this is necessary. We conducted a survey last summer to evaluate teaching units in agriculture in Kentucky. The teachers of agriculture indicated that the most valuable parts of the units which we had developed dealt with subject matter (technical information) and suggested references. We included suggested teaching-learning activities in the units, but teachers valued content material higher. I feel sure that these courses in off-farm agricultural occupations will be rated high on their technical information.

# FEDERAL RESPONSIBILITIES IN EVALUATION OF VOCATIONAL AND TECHNICAL EDUCATION*

by

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With the enactment of the Vocational Education Act of 1963, Congress authorized Federal grants to states to assist them in strengthening and improving the quality of vocational education in the Nation. As most of you know, the Act also specifies periodic review of vocational education programs and laws. During 1966, the Secretary of Health, Education, and Welfare is required to appoint an Advisory Council on Vocational Education for the purpose of reviewing and making recommendations concerning the status of vocational education programs, the administration of these programs, and the Acts under which funds are appropriated.

Provision was made, when the Division of Vocational and Technical Education in the U. S. Office of Education was reorganized to administer the new legislation, for a small program evaluation staff to work directly with the Assistant Commissioner responsible for these programs and to serve as liaison with the Advisory Council when it is appointed by the Secretary. I want to describe to you today our plans for the functioning of this operation -- our objectives, the procedures we plan to follow, our approach to the problem of evaluation at the National level.

Stated as simply as possible, our objectives are: to develop a comprehensive and responsive system for determining the effectiveness of vocational-technical education programs in terms of the purposes of the Acts as administered by the Division of Vocational and Technical Education; to organize the system so that it will meet both the short and long term needs of the U. S. Office for program planning and decision making; and to anticipate the requirements of the Advisory Council on Vocational Education soon to be appointed by the Secretary. How to accomplish these objectives, is a demanding matter. The problem of evaluating progress in all aspects of vocational-technical education in fifty-four states and territories for more than four and one-half million students in thousands of schools is almost overwhelming. The sheer size of the problem precludes any "eyeball-to-eyeball" approach of teams evaluating institutions in a particular school district. Evaluation at the Federal level must be largely through an analytical approach based on an extensive and comprehensive information system supplemented by selected on-site reviews.

Although time will not permit a detailed presentation, I should like at least to outline for you our plans for a systematic approach to a national "pulse-taking." These plans will also serve as a framework within which each state can evaluate its own stock-taking efforts in vocational education.

The need to define goals or objectives is basic to any evaluation process. This is an essential first step since it is against the goals or objectives that progress will be assessed. Step two is the identification of those items whose measurement will indicate progress toward or problems encountered in moving toward the established goals. Identifying items is usually simpler than measuring them, but devising a system for measuring the items (and I am speaking of qualitative as well as quantitative measures) is an obviously essential step; it must preceed any analysis of accomplishments achieved in relation to goals.

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*Paper from which Bernard Michael drew material for an informal luncheon presentation to the participants of the National Seminar on Evaluation and Program Planning in Agricultural Education, June 28, 1966, The Ohio State University, Columbus, Ohio.

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What are these goals to which I refer? They can be derived readily from the Vocational Education Act of 1963 and the responsibilities of the U. S. Office of Education in administering this Act and other related legislation. I am sure that they are familiar to all of you in one form or another, and I will take only a few minutes to summarize them for you as the first step in outlining an evaluation system:

I. Provide access to realistic, high quality occupational education and training for all who need or desire it (ranging from the least able and the disadvantaged to individuals with a high level of technical ability), including:

  A. Young people attending high school
  B. Persons who have dropped out or completed high school
  C. Those who are at work and need training or retraining to hold their jobs or advance in employment
  D. Those who struggle with academic or socio-economic handicaps

II. Encourage the establishment of occupational programs appropriate to the needs of a given area in all types of schools or educational institutions including:

  A. Comprehensive high schools
  B. Specialized vocational-technical high schools
  C. Technical high schools
  D. Junior and community colleges
  E. Area vocational and technical schools of different types, both secondary and post-secondary
  F. Four-year colleges and universities, both public and private
  G. Private schools under contract with the state board or local educational agency

III. Offer programs covering the entire occupational spectrum (excluding only those occupations which the Commissioner of Education determines to be generally considered professional or which require a bachelor's or higher degree).

Foster flexibility in the improvement of existing programs and in the development of new and varied programs responsive to present and future occupational requirements and opportunity.

IV. Gear vocational and technical education programs to current and projected labor market needs (including local, state, regional, and national as appropriate).

  A. Establish cooperative agreements between vocational education agencies and public employment service agencies:

    1. To assure consideration of available labor market data
    2. To assure effective coordination of counseling placement and other services offered by schools and employment services

  B. Establish advisory councils to State Boards for vocational education. (Include on the councils representatives of employers, labor unions, and other persons familiar with training needs of employers and with those of the individual.)

V. Stimulate improved planning by State agencies with responsibility for administering programs.

VI. Stimulate periodic program review to assess progress of programs toward goals and to provide bases for further planning to remedy shortcomings.

VII. Encourage and provide some of the means for research and experimentation aimed at improvement of all aspects of vocational education.

It is apparent that in enacting the Vocational Education Act of 1963, Congress had in mind broad and comprehensive goals. Explicit in the Act are concern for needs of the individual as well as for needs of the economy. Considerable stress is placed on the need to create a flexible vocational education system available to all Americans of all ages and conditions and in all communities.

What are the major items which can help to indicate program status? Logically they fall into three major groups: (1) The population to be served. (2) The functioning of the education system: the administration organization, and existing power structure; the physical capacity of the system (facilities and equipment); the teachers, administrators, and counselors and other personnel; the curricula; the services (guidance placement, research, data collection, etc.), and (3) the servicing of needs of employers and concerns of society, including current and future market demand and fulfillment of citizenship and other non-economic concerns of society.

Sources of information already available include the annual reports from each state and territory, from which it will be possible to describe trends in enrollments and completions by level (secondary, adult, etc.), by program (trade and industry agriculture, etc.), and within programs by occupational commitment. Considerable data on expenditures by program and by purpose will also be available, and perhaps some general follow-up information on initial placement of graduates. In addition to the data, annual descriptive reports, statements of projected program activities also furnished by each state, will aid us in assessing progress throughout the nation. To supplement the analytical approach to program evaluation made possible through the new reporting system, we hope to accomplish state visits and some on-site review by program specialists of our headquarters staff and by the regional staffs, which are now being expanded. To further supplement these efforts, we hope we shall have the results of numerous research projects funded under section 4-c of the Vocational Education Act of 1963 or through other government or non-government funds. Such projects, many of which are already underway, will include a variety of follow-up studies, cost and benefits analyses, curricula evaluations, labor market demand studies and a host of others which can be used in our evaluation system. At least two major evaluation efforts for developing techniques useful at State and local levels are in the planning stage at the vocational research centers at Ohio State University and North Carolina State University.

To summarize, then, measurements which will assist us in evaluating progress toward achieving goals include:

1. Trends in numbers and characteristics of persons enrolled in and those completing programs, compared with the estimated proportion of the population needing or desiring training (the population not served)

2. Success in terms of pre-employment information, such as educational achievements; demonstrations of basic knowledge or skills needed to earn a living; knowledge of world of work -- occupations, entry and progression requirements, salaries, etc.; work habits; attitudes; methods of self appraisal; and knowledge of how to obtain a job

3. Effectiveness in terms of the ability of state administrations to plan and organize; to attract and hold students; to provide sufficient numbers of well-trained teachers, facilities and equipment, instructional materials; to provide needed services such as guidance, placement and research; to anticipate new areas and adjust program offerings to reflect current and projected job openings; and to provide effective articulation between levels and types of schools assuring maximum flexibility for individuals seeking training

4. Effectiveness in achieving objectives in terms of follow-up information (placement, job satisfaction, advancement, mobility, employer satisfaction, contribution to the community and other aspects of citizenship)

5. Assessment in terms of cost effectiveness and other analyses of expenditures such as shifts among existing programs, allocation of funds to new programs, approaches to balanced program offerings and other evidences of effective and flexible funding

As part of the evaluation process, questions will be raised as to funds and other resources needed to achieve optimums, considering population to be served, available capital and human resources, and estimated current and projected labor market needs. We hope the evaluation system we are developing will enable us to make recommendations for improving administration at all levels, for necessary research, and possibly for new legislation or amendments to existing laws to facilitate their administration. After all, even the most comprehensive evaluation system is useful only in the planning and decision-making process. We are trying to develop our system so that it will accurately and continuously reflect progress and identify problems in vocational and technical education.

# THE ROLE OF THE CENTER IN NATIONAL EVALUATION

by

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It is indeed a pleasure for me to be on this program where the topic is evaluation and particularly where agricultural education is the focus of attention.

Although the major part of my work for the past few years has been research-oriented, I have been able to maintain a continuous membership in a department or division of agricultural education at all times.

My assignment today is that of discussing the role of The Center in national evaluation. The printed program says "National Evaluation Project" which is a little misleading -- there is not, to my knowledge, a national evaluation project. There is a national evaluation effort called for in the Act and we will all be a part of it, but the word "project" as used here is a misnomer.

The word evaluation is certainly no misnomer, and if anything it has taken on a new air of importance today. Anyone writing a research proposal knows very well that the section labeled "Evaluation" is a mighty important section. People have risen to quick fame through evaluation efforts, and I need only to remind you of the young man named Nader who made a very recent study of automobile safety and authored the publication (about a certain General Motors product) called, Unsafe At Any Speed. That little attempt at evaluation was so important that it sent shivers and shudders up the back of Wall Street.

In my humble opinion--the forthcoming evaluation which will take place in national vocational education--may send a few shivers up many of our backs. We just have to show that we are doing something besides going through the motions.

There is the story about the guy who bumped into another car in front of a bunch of people. He gets out of his car, takes a note pad or piece of paper out, goes over to look at the damage, appears to be writing down his own license number, puts the piece of paper on the windshield of the damaged car and then drives off. One of the spectators goes over to look at the note and on it, it says, "These people watching me think that I am writing down my license number and leaving my name and address -- I'm not."

Many of our vocational education activities are not what they seem to be either. The problem today is that schools have a whole new army of critics. They don't stand around and guess what you're doing, but get right in behind and look over your shoulder. To top it off this isn't such a bad position if they don't like what you're doing.

We in vocational education have been given some 177½ million dollars for this fiscal year - 225 million for next year. Congress is going to ask, "WHAT DID YOU DO WITH THE MONEY WE GAVE YOU DURING THIS FIRST APPROPRIATION PERIOD? WHAT WOULD YOU DO IF WE WERE TO GIVE YOU SOME MORE? WHAT CAN YOU TELL US ABOUT THE CHANGES FOR IMPROVEMENT YOU HAVE MADE?"

You have undoubtedly heard the story about the farmer who inherited a half-million dollars. After they got him settled down from jumping over fences and dancing around the water pump, they asked him, "What are you going to do with all that money?" He thought for a while, then said, "Well, I guess I'll just farm, and farm, and farm until it's all gone."

Let's make sure that we in Agricultural Education don't just keep going through the same old motions over, and over, and over again until our money is all gone and we still haven't moved ahead.

At The Center we see our role in evaluation as having both a long-range and a short-range aspect.

(1) Short range - We see a need for assisting states in meeting their responsibilities in the forthcoming national evaluation.

(2) Long range - We see a need to assist states in a continuous evaluation program - an evaluation program which, when properly conducted, can serve as a basis for program changes, additions, deletions and improvements - an evaluation system that becomes a part of all on-going programs and something more than a one-shot effort. This evaluation system will be the development of a model that can be used for evaluating a state's total effort in vocational education.

More specifically:

(1) We plan to develop a set of guidelines complete with data gathering instruments, general procedural outlines, plus techniques for synthesis and analysis of the information.

(2) To carry out regional training workshops assisting state staff members in becoming acquainted with the evaluation program package that is developed.

How we plan to proceed:

(1) Employ three full-time persons who have the sole responsibility to think, eat, and sleep evaluation of vocational education.

(2) Seek the cooperation of three states who will volunteer to serve as pilot states for trying out any evaluation guidelines developed. (New Jersey, Colorado, and Kentucky will be the pilot states.)

(3) Bring into The Center one person from each of these three pilot states to assist in the development and testing of the guidelines. (These people will work part-time at The Center and part-time in their home states).

(4) Bring in special consultants as needed.

(5) Collect from all known sources the best instruments and techniques that are now available. We will use parts, rewrite parts and develop completely new materials.

(6) Try the materials out in the pilot states.

(7) Revise the guidelines as needed.

(8) Hold regional workshops for purposes of acquainting all states with the guidelines.

(9) Keep a permanent staff member at The Center who has these responsibilities:

    a. provide consultant assistance to the profession in the area of evaluation.
    b. continually evaluate and improve the evaluation techniques and instruments used in vocational education.

There is the story about the group of people who were being taken on a tour of a large manufacturing plant. From the cat-walks high above the main floor, they were watching the big machines clanging and banging--puffing and steaming. Above the noise of the machines, one of the tourists shouted to the guide, "What do you manufacture with all those machines?"

The guide answered, "We make grease." The tourist responded, "Boy, you must have a big gross sales with all that machinery available."

"Heck, no," said the guide, "it takes all the grease we can manufacture just to keep the machines going."

You can rest assured that what we come out with will hopefully be something that is simple enough to get the job done without keeping the entire staff busy just evaluating.

What is our time schedule?

Optimistically:

September, October, November

- get staff on board
- establish criteria, key indicators, potent variables
- review, revise, write materials for data gathering
- outline the macroscopic approach and field test
- develop some microscopic materials

December

- report to profession on progress (AVA meeting)
- possibly a state directors meeting on evaluation

January, February, March

- pilot trials using the guidelines
- revise materials as needed
- print guidelines

April, May, June

- conduct regional workshops

Some general comments on the approach to state evaluation:

(1) One of the real benefits from any evaluation is involvement--involvement of people. The states will carry out their own evaluations--no one group will be coming in from The Center or Washington to do it. Our approach stresses self-evaluation.

(2) Everything developed and set forth as guidelines will be used on a voluntary basis.

(3) The materials developed will be flexible - a state will be able to use parts, modify and even omit parts if appropriate.

(4) We hope The Center's efforts will eliminate a duplication of efforts across the nation.

(5) Above all--the materials are intended for the individual state's own use in program evaluation within a state and not for between states comparisons. Flexibility will be built in to allow for differences in the various programs from state to state. We know programs are going to vary by size and hope to be able to make the guideline material flexible enough for all states to use.

(6) In the future, we see the evaluation procedures and instruments being fed into the Educational Retrieval system and anyone in the profession will be able to obtain copies of instruments on microfilm by return mail.

What can you do to help us in our efforts?

We will need your:

- Ideas on how much is needed and how little is appropriate
- Information on sources of data
- Instruments for data gathering
- Individuals who can serve as consultants

George Bernard Shaw once said, "Some people see things as they are and ask why. I see things as they never were and ask, why not?"

Our state evaluation efforts must not stop at a point where we merely look at what is and ask why, but we all must be looking for those programs that aren't there now and ask WHY NOT?

# GUIDELINES FOR THE DEVELOPMENT OF INSTRUMENTS FOR EVALUATION IN VOCATIONAL AGRICULTURE

by

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Many necessary and important points of view regarding the evaluation of vocational agriculture have already been made during this conference. We have a new set of objectives to guide us. We have discussed the kind of evaluation which needs to be made because of the imminence of the national evaluation and what this evaluation should accomplish.

Before we can go further, however, we must develop the means for conducting evaluations which in most cases will require an instrument or instruments to accomplish the task.

Immediately following this presentation each of you will assemble in committees to help develop instruments which can be used in the evaluation of programs of vocational agriculture in your own states. I hope that these suggestions which I am about to make on the development of evaluation instruments will help you in this effort to the end that you may leave this conference with a clear understanding of how to carry on the same process with your own personnel in your home state.

First of all, let us think of an evaluation instrument as a means of taking us some place where we wish to go. We are somewhat in the position of the makers of the old Conestoga wagons, which carried our pioneer forefathers across this state to the new land of the west. People came to these wagon makers with plans for taking their families great distances. They knew that they would be crossing deserts, fording rivers. They knew that their trip might take many months; they knew something of the total weight of the belongings and food which their wagons would carry. In order to get from where they were to where they wanted to go, they needed a particular kind of wagon which would do this job.

This is the purpose of the instruments which we need for evaluation. We have a pretty good idea of where we want to go, what we want to accomplish through evaluation. So, now let us turn our attention to the kind of evaluation instrument which we need to do the job.

Leaders in vocational agriculture have given considerable attention to evaluation during the past forty years. The fact that we are discussing the subject this week is evidence that we have not solved all the problems. In fact, had evaluation been carried in an ideal manner, there would have been no need for Congress to specify that an evaluation should be made at this time. The fact would have been in, and we would have had the results of our evaluation effort complete, accurate and continuous.

As we have tried to evaluate programs of vocational agriculture during these past forty years, we have had difficulties which we must avail in the future.

We have sometimes placed an uneven emphasis on certain aspects of the program. We have probably over-evaluated the FFA and the Young Farmer Program for example, while giving little attention to such important aspects of the program as classroom teaching and placement of our students in jobs.

Evaluation has come from the top down in too many cases. In this type of evaluation, criteria have been imposed upon local programs by outsiders which were considered by the recipients un-appropriate and unfair.

Voluminous and complicated instruments have been used all too often in evaluating programs in the past. This has led to time-consuming procedures in evaluation. Evaluations which require weeks of preparation on the part of the teacher may be ideal, but they certainly are not practical in today's schools. As a result of this kind of evaluation, all too often the participants have been worn out by the evaluation process to the extent that they have made limited use of the results in improving programs.

Another difficulty has been that we have made sporadic attempts at evaluation rather than continuing evaluation extending over a period of years.

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One of our difficulties in the past is that we have tried to evaluate on the basis of out-worn and out-of-date objectives to guide our efforts at this time.

Dr. Michaels raises a challenging question when he challenges us in our national evaluation to arrive at measures of the cost of our educational programs and of the returns which we secure from them. This presents a difficult problem. Let me illustrate:

> A community which has had a vocational agriculture program for the past thirty years would have spent funds for teacher's salaries, for facilities, for light, heat and upkeep of equipment to the extent that they might well have an investment of a third of a million dollars in a single community.
>
> A third of a million dollars will build a fine church or a library or might even provide a small park. School administrators from the board of education have to be able to tell to their constituents that this one third of a million dollars which was spent on vocational agriculture was better spent here than on some of these other alternatives.

These board members and school administrators in most communities across the nation would say their vocational agriculture program has been a good investment and they could justify it in terms like these. "Farming is more efficient and profitable in our community as a result of a program." "Some of our best farmers took vocational agriculture in high school." "Many of our farm boys find a real interest in school through vocational agriculture programs." "These boys have become leaders in our community." "This program started a number of our boys in the College of Agriculture." When these statements can be made--even if they happen to only two or three boys a year--it is easy to justify spending a third of a million dollars over a thirty-year period. If they don't happen, the funds may well be spent for other educational programs.

These are some answers which we need as we evaluate programs of vocational agriculture, but they are difficult ones to obtain. It takes a carefully constructed instrument to provide for the evaluation of outcomes such as the ones we have discussed above, as compared to one which assesses only ways and means.

As we consider the development of instruments for evaluation, certain basic assumptions must be made as to how the evaluation is to be made. The following are seven assumptions which give direction to the types of instrument needed.

These assumptions are as follows:

(1) Local programs are the basic units to be evaluated. State and national evaluation can then be based upon cumulative information obtained from many local evaluations.

(2) A combination of "self" and "outside" evaluation is most effective. When we evaluate ourselves we accept our own judgments, but we often need the judgment of others to reinforce our own convictions.

(3) Evaluation will be made on a continuing basis. We are assuming that certain evaluations will be made of selected aspects of the program each year, but that at least every three to five years a thorough and complete evaluation will be made.

(4) Those affected by the program will share in its evaluation. This means that we will call upon farmers and businessmen, school administrators and parents to assist us.

(5) The evaluation instruments will be comprehensive without being voluminous.

(6) The initiative for requesting the evaluation will rest with those responsible for local programs.

(7) The supervisory and teacher education staffs will assist in carrying out the evaluation.

## GUIDELINES FOR EVALUATION INSTRUMENTS

The following represents some guidelines for developing evaluation instruments in the kind of situation which we have described above and are based upon some of the assumptions which we have established.

## SOME ESSENTIAL CHARACTERISTICS OF INSTRUMENTS FOR THE EVALUATION OF LOCAL PROGRAMS OF AGRICULTURAL EDUCATION

(1) Based upon educational objectives, which are generally accepted by those involved in the program.

(2) Inclusive enough to cover all important aspects of the program.

(3) Capable of being used on separate areas of the program at various times.

(4) Adaptable to both self evaluation and group evaluation.

(5) Understandable to both professional and lay persons.

(6) Requires a minimum of records, reports, and preparatory paperwork.

(7) Includes selected guidance in the form of objective data.

(8) Includes opportunity for subjective judgment of educational outcomes.

(9) Provides for comparison with established standards, norms and summaries.

(10) Provides opportunity for longitudinal evaluation extending into the future.

(11) Provides for a brief meaningful summary at the close of the evaluation.

(12) Concludes with implications for further development and improvement of the program.

A first step is certainly that of reviewing general objectives for the program.

The publication, "Objectives for Vocational and Technical Education in Agriculture," certainly provides us with a valuable starting point. These objectives, however, need to be restated and revised in terms of the unique needs and problems of each local community.

The next step to which we need to address ourselves is that of making an analysis of the local program in terms of its major components, or if you like, teacher tasks. An example of program components or teacher tasks necessary to a successful program of agriculture for youth of special needs might be as follows:

1.1 Relationship with the school
1.2 Curriculum
1.3 Teaching methods
1.4 Occupational experience
1.5 Guidance and counseling
1.6 Facilities
1.7 Community relations
1.8 Placement

The second step becomes one of developing appropriate guidelines which are in a sense objectives for each of the program areas which have been identified. These statements serve as a starting point for the evaluation as well as a guide for the final evaluation of this area. Here is an example of a guideline for the areas of occupational experience. "Appropriate programs of supervised practice should be planned for each student. The nature and extent of this experience should be adjusted to the abilities of the individual student and should provide for realistic occupational experience and expiration. Such programs will be closely related to the agricultural curriculum pursued by these students." The development of such guidelines is important not only as a basis for evaluating areas of the program, but also as a means of helping those assisting in the evaluation to think together about various aspects of the program.

At the risk of being too specific, I am going to suggest that each section of the evaluation instrument for each aspect of the program should contain the following items:

(1) Guidelines as described above.

(2) Facts and figures regarding this aspect of the program for the current year. These facts and figures must be objective and should consist of only a few key indicators rather than all the information which might be compiled.

(3) Selected trends for the past three to five years should be recorded. Trends provide a further look at what has been happening in the program and may be used in the forecast of what may happen in the future.

(4) Judgments of results or outcomes of this aspect of the program should be secured. If we limit the evaluation to ways and means as we do when we examine figures and trends, we fail to include the outcomes that people are willing to pay for in an educational program.

(5) We need a simple and understandable rating scale for evaluating the area.

(6) We need to provide for recommendations for further improvement.

Now let us try out a single section of our new instrument. Here is an example of a single section of an evaluation instrument. This section is designed to be used in evaluating the Young Farmer Program. This page is one of ten pages which we use in an instrument for evaluating vocational agriculture programs in Ohio. It is a self-contained page and it includes the features which we have discussed. This instrument has been completed during an evaluation meeting held in an Ohio community. The facts have been recorded. Trends have been plotted and local people have given their judgment as to the outcomes of the program. All that remains is for us to arrive at a final evaluation for this area of the program. Let's see what use we might make of it. First of all, looking at some facts and figures, we see some desirable features of this Young Farmer program as well as some undesirable features. Section 2, "Selective Trends," indicates that this program is encountering difficulties. Enrollment is dropping. Attendance at meetings is decreasing. The number of teacher visits per student has been lowering each year. In Section 3, "Outcomes and Results," it is assumed that a local advisory committee has made these judgments, and they say in summary that the instructional meetings are not as interesting as they should be, and that the members really are not making many changes in their farming operations as a result of the course.

Now coming to the final evaluation, most of you have agreed that this program would receive a rating of only fair or "two." Here is a simple demonstration that gives the key facts and judgments for a conservative evaluation. If you can come up with an instrument of a similar nature which has the characteristics which we have described during your committee sessions, such an instrument should aid greatly in evaluating programs of agriculture in your state. One final word. The process of developing your evaluation instrument may be as important as the product. Instruments of evaluation have maximum meaning for those who hammer them out and put them together. In developing instruments for our individual states, each of us have the responsibility of involving in their development those who will use them.

## YOUNG FARMER PROGRAM [1]

Guiding Statement: Every vocational agriculture department should provide programs of education in agriculture for young farmers which will encourage them to further their education by participating in existing agricultural education programs at the local, county, or state level. The instruction should be based upon the needs of the enrollees, and should contribute to their efficiency in agriculture and provide a better understanding and appreciation of rural life.

| 1. Some Facts and Figures | This Year |
|---|---|
| List significant farming changes made by students resulting from organized instruction ________________________________ | ___ |
| ________________________________ | ___ |
| ________________________________ | ___ |
| Number of former high school vocational agriculture students now enrolled in the Young Farmer Program | ___ |
| Number of field trips | ___ |
| Number of meetings of Young Farmer planning committee | ___ |
| Number of sessions devoted to farm business planning and analysis | ___ |
| Number of sessions in which resource persons were used | ___ |
| Number of years of affiliation with Ohio Young Farmer Association | ___ |

| 2. Selected Trends | 2 Years Ago | Last Year | This Year |
|---|---|---|---|
| Number of instructional meetings held | ___ | ___ | ___ |
| Average attendance at instructional meetings | ___ | ___ | ___ |
| Total enrollment | ___ | ___ | ___ |
| Number of teacher visits per student per year | ___ | ___ | ___ |
| Number of teacher visits made to prospective members per year | ___ | ___ | ___ |

3. Outcomes or Results

Use local interviews, observations, and discussions as a basis for your appraisal of results. Evaluation Scale: 5-Excellent; 4-Good; 3-Average; 2-Fair; 1-Poor.

5 4 3 2 1

. . . . . 1. The instructional meetings are interesting and useful to those enrolled.

. . . . . 2. The members are making desirable changes in their farming operations as a result of the course.

. . . . . 3. The members are developing further competency in social, recreational, civic, and leadership responsibilities.

. . . . . 4. The members are becoming successfully established in farming.

4. Evaluation of Area

To what extent does the vocational agriculture department provide programs of education in agriculture for young farmers which are based upon their needs and which contribute to their efficiency in agriculture and to a better understanding and appreciation of rural life?

--Use back of page for other major accomplishments in this area and suggested improvements--

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[1] A sample page from "Appraising the Vocational Agriculture Program." Issued by The Department of Agricultural Education, The Ohio State University, and The Vocational Agriculture Service, The Ohio Department of Education.

# A PROGRESS REPORT ON INTERSTATE COOPERATION

by

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## EVALUATION:

To fix a value of; estimate the force of; to appraise. One must conclude from the above definition that evaluation may be a process or a point in time. One must assess his present position; establish goals and objectives; and rechart his course for the attainment of these objectives and still call the entire process evaluation.

The process of evaluation in education may be defined differently by the various disciplines involved. Our colleagues involved with general education in the high school are primarily concerned with the accumulation of knowledge to the extent that the pupil may enter college. Only in recent years have they been concerned with the children with special needs. Only since Federal funds have become available have programs become available for the disadvantaged.

This area, however, is another chapter -- My problem here today is to explain the project of interstate cooperation in developing evaluative criteria.

The history of the cooperative venture dates from the 1964 North Atlantic Research Conference held at the University of Maryland. It was at this conference, in discussing Vocational Ornamental Horticulture, that it was realized that there were no adequate published criteria upon which to base or to evaluate a program. Of the four states polled, there was no commonality as to recommend bench space per pupil; kinds of crops to grow; size of greenhouse, plastic or glass; automatic equipment necessary; etc.

Dr. Alan Robertson and Frank Wolff of New York and Dr. Annis of New Hampshire, decided to work together and invite other states to participate in developing evaluative criteria for this area.

Since that time, three meetings have been held with representatives of New York, New Hampshire, Massachusetts, Pensylvania, and Connecticut. These meetings have been attended by State Department of Education Personnel, Researchers, Teacher Educators, Teachers of post-secondary programs, and teachers of secondary programs.

The objectives of this project were:

(1) To develop evaluative criteria for the planning stages of Vocational Ornamental Horticulture programs.

(2) To develop evaluative criteria for an on-going program of Vocational Ornamental Horticulture.

(3) To develop evaluative criteria to determine
  a. Program outcomes
  b. Emerging goals and objectives

At the first meeting it was decided that the resultant publication be usable by teachers, administrators, supervisors, or the local boards of education for evaluating the program at a particular school. This publication will be forthcoming later this year.

Phase I consisted of an assessment of "Where we are" in Vocational Ornamental Horticulture, and the development of criteria which would assist the above mentioned recipients of this publication in the planning stages.

To assist in the planning and development of goals and objectives several criteria were developed. These criteria were based on both the needs of industry and the goals, objectives, abilities in the development of human dignity on the part of the individual.

You will note the two distinct approaches to the problem. On one hand, the needs of industry were considered but the individuals with their various needs, attitudes, and aspirations in this field were not forgotten.

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After the criteria for establishing goals and objectives were developed, several supporting areas were identified. These supporting areas included: student identification and selection; facilities; materials of instruction; coordination with other subjects; planned work-experience programs and the use of community resources. Criteria for evaluating were developed under each of these headings.

Phase II of the project involves the evaluating of an on-going program. Utilizing the basic design established under Phase I efforts were made to measure how well the plan is working in practice.

Although evaluation of teacher effectiveness is related to all phases of an instruction program, only a part of the phase of the project dealt with the evaluation of instruction per se. While some might criticize this as a weakness in the evaluative criteria, it was felt that if teachers were to make an objective evaluation the criteria must be made as impersonal as possible.

Many things totally unrelated to the on-going program may affect the placement of students. For example, an "outside factor" could be the economic prosperity of an area--(1) a labor strike (2) social climate in terms of employer attitudes toward hiring different groups (3) changes in job opportunity within and without the field of Vo-Hort. These "outside" factors must be considered.

In phase III of the project, the participants were concerned with

a. The comparison of achievements of the program in relation to previously stated objectives and

b. An appraisal of emerging goals through which the program may be adjusted and extended.

The participants were as concerned about adjusting the program as about maintaining it. In Northern New England teachers seem to always be trying to add more to their programs without deleting anything from the teaching calendar.

The people working on this interstate project realize there are many factors operating in a given community which bear upon the degree of success other than those controlled by the instructional program. This has been stressed throughout the publication.

Evaluative Criteria must be based on objectives which are obtainable for a local situation.

# EVALUATION THROUGH RESEARCH

by

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I have been asked to present a somewhat broader picture of the evaluative process than you have been considering at this Seminar. I shall attempt to do this by drawing my examples from two Federal programs with which you may or may not be familiar: The Manpower Development Act and the Job Corps. I am a practitioner of evaluation in both of these programs, so my remarks will be based on experience. If my comments seem too pragmatic at times, I ask for your patience, because when you spend all of your time doing something you can get very enthusiastic about it. In this instance, I refer to your phrase "learning by doing."

In order that you may more clearly understand my remarks, I would like to take a few minutes to explain a little about the MDTA program and the Job Corps.

We have been operating an MDTA project since November of 1964. Our trainees are adults, between the ages of 18 and 60, who are undereducated and unemployed. One-fourth of our trainees are functionally illiterate. That is, they read at less than the fourth grade level. Over 90 percent have completed less than twelve years of schooling, and they function academically at a level several years below the level where they left school. That is, the individual who has completed the tenth grade often functions at the sixth or seventh grade level.

Seldom do we find anyone who has worked full time for as long as one year and yet our trainee's average age is thirty-three. What have they been doing all this time? The answer is simple, trying to exist! When they do get work, it is part-time or seasonal. They are unskilled and the wages are poor, even though they make more working in agriculture in California than they make in almost any other occupation. At the same time, the work is seasonal and they can't live all year on what they make in agriculture. Many turn to jobs in the restaurants, hospitals, transportation, etc. Others turn to public assistance, such as welfare or unemployment. But when it is all put together, they earn less than $3,000 per year. It is not enough for you and me, and it is not enough for them.

I think that a poem by Edward Markham entitled "The Man With the Hoe" helps us to put this picture in focus. He said,

> "Bowed by the weight of centuries
> He leans upon his hoe and gazes on the ground,
> The emptiness of ages in his face,
> And on his back the burden of the world.
> Who made him dead to rapture and despair,
> A thing that grieves not and that never hopes, . . ."

There is more, but envision if you can, a human being who has always failed, who really doesn't know what it means to hope! It's a dismal picture, but if you can see it, you can see our trainee.

The people I have described represent the challenge that MDTA projects have accepted. Some have met the challenge and some have not, but we shall go into that at a later time. Our MDTA project has three parts: basic education, vocational education, and work experience. The basic education component consists of the three R's, as you would expect. It also contains something we call motivation, or the modification of attitudes, which is essential. I don't care how well you can read or how skilled you are, it won't fill your belly unless you go to work. In other words, you can train people to do nearly anything, but what point is there if they don't use the training! Thus, we have motivation classes.

Our MDTA vocational programs are in agriculture, business, trade and industry. In agriculture we offer training for milkers, tractor operators and farm mechanics, groundsman-gardener, tree and vine pruners, poultry and all-around farm hands. Business vocations include clerk-typist, bank teller, bookkeeper, sales personnel and cashier. Trade and industry offers training in the culinary family, nurse aide-orderly, L.V.N., custodian, dry cleaner, repair occupations, dental technician, and so on. We offer training in some thirty vocations.

Work experience is considered an integral part of each vocational program and as you might expect, many trainees go to work where they were placed for work experience. In fact, it is sort of planned that way.

The urban Job Corps is very similar to the MDTA program in many ways except their trainee is a younger version of the MDTA trainee and costs more. The components of the Job Corps program are basic education, including personal development, vocational training and counseling since their trainees live at the site and group dynamics becomes an integral part of their total program.

The vocational program in the Job Corps includes electronics, where the occupations vary from harness assembly to TV repair; office occupations, such as sales, operation of accounting machines, bookkeeper, etc.; culinary arts, from chef to kitchen helper; office machine repair; and auto mechanics, where they receive training in diesel, welding, and body work as well as automobile repairs. They also train in the building maintenance occupations of custodian and groundsman-gardener.

Since Job Corps students come from and return to all parts of the United States, their work experience is right on the base, where they have excellent facilities. They can stay for as long as two years so they do learn the necessary skills if they remain long enough, but they do not actually have an opportunity to work for a given employer.

If you read between the lines of what I have said so far, you can see where evaluation has been operating. Therefore, let's turn to the process of evaluation itself. I remember the first time I was ever asked to define evaluation. I managed to find a few appropriate words, weave them together and came up with something that wasn't too bad, but as I look back, it wasn't too good, either. Therefore, I shall try once more and simply say it is a systematic procedure to find out if a given program has accomplished what it set out to do.

There are a number of ways that one can go about an evaluation or perhaps I should say that there are many approaches to making an evaluation. However, each method begins at a common point, the objectives, the goals or as the systems analyst would say, "the outputs." In any case, one has to start with what it is that the program is trying to accomplish, what sorts of outcomes do they expect, what will be the nature of their product after it has been through the program? You cannot evaluate a program on the basis of what you want it to accomplish unless you are planning on running it yourself. I'm sure that each of you are aware of the multitude of problems created by those who would place exclusive reliance on evaluative criteria developed by a group of experts. True, they are an excellent point of beginning, but they cannot do the job by themselves. Moreover, evaluation is not a once a year thing, but an on-going process. A program must constantly ask why are we doing this and then find out if they are! I am not suggesting that external evaluations are inappropriate--on the contrary, they are a necessity. I simply mean the program defines the objectives and then the evaluator steps into the picture.

I would submit that the rule on forming objectives should never be broken, at the same time the temptation to break this rule is very great. Because typically programs generally know what they want, but they have not set down and spelled it out specifically. Thus, the evaluator is tempted to do it for them. I urge you to resist, although it will take more effort to get them to write down their objectives in some relatively succinct manner than it would to do it yourself. I have spent many frustrating weeks with MDTA and Job Corps getting the objectives clearly spelled out, and I honestly believe it was the wisest investment of time I have ever made. As I shall point out later, once you know what it is that the program wants to accomplish, the task of evaluating is really very simple.

Let's be more specific for a moment. MDTA and the Job Corps have made it clear that what they want is to make people employable. In a word, it is spelled WORK. Sounds clear and simple. Therefore, you say "your primary objective is to prepare people so they can get a job?" (Thinking to yourself, all I have to do is a job analysis and note discrepancies, if any, between skills trained for and skills needed.) However, the answer is, "No, that is not enough," because if they don't actually go to work and remain at work, their preparation is not adequate.

This then raises the point of how one writes the necessary objectives so that they are mutually exclusive without having to prepare a book. To begin with one can't put them all down, but if you will state the overall goal, decide what functions will have to be fulfilled in order to reach that goal, and then define the role of each staff member in relation to the functions, one can isolate the more significant objectives.

For example, the goal is work. The functions the program must prepare the individual to fill in order that he can get work include, among others, being able to read, write and do math at some level, filling out an application, keeping himself clean, working with other people, getting to work on time, and so on. Then what kinds of roles are needed by staff members to fulfill the functions? The roles could include instructor, vocational counselor, curriculum development, placement, record keeping, supervisors, etc. From this skeletal outline, you can develop clear objectives, because you know where you are going and how you plan to get there. In effect, you have a roadmap that shows where you are going (GOAL), how you intend to get there (FUNCTION), and who shall be responsible for completing which functions (ROLE). Your primary objectives can be clearly identified and stated by following this procedure.

It should be clear by now that evaluation does not carry any connotation of good or bad. That is a decision that the program being evaluated will have to make, because they will carry out modifications depending upon how they perceive the evaluator's findings. Thus, evaluation has to be as objective as possible and stick to the facts. A program may not like what you say, but if you have a factual basis, they will accept it and, in most cases, do something about it.

Another reason for the evaluator seeking and then citing empirical evidence for his findings is that the program needs a basis upon which it can affect modifications. This means it is incumbent upon me as an evaluator to build a chain of logic, saying -- "Here is what you wanted to do, here is the evidence of what you have done and it is my considered opinion on the basis of this evidence why you have or have not achieved your objective. Under the circumstances, I would recommend that you consider . . . " At this time, I also try to cite specific research that supports my recommendation. For example, the Employment Service was using the G.A.T.B., in the MDTA program to indicate a trainee's ability to profit from a specific type of vocational training. It was found that many trainees were so low in reading ability that the test provided an inaccurate picture and trainees were being screened from vocations where they could have performed effectively. This finding was later supported by Pallone's study on the G.A.T.B. A program is now being considered that will admit trainees without testing using the skill center approach used in Los Angeles and East Oakland.

The point here is that a given program will not implement the evaluator's findings unless they understand the basis of the findings and they perceive the findings to have specific meaning for their program. After all, the purpose of evaluation is to provide a basis for modifying a program and if they don't act on the findings, why bother doing the evaluation?

I would like to change the pace at this point and spend a few minutes talking about some of the tools of evaluation that I have found useful.

Perhaps the most informative of all is use of a single word, why? One must exercise care when using this term, because many people will think that you are implying some sort of criticism. Therefore, I usually take a simple-minded approach, declare my ignorance, frown and say, "I don't understand, why do you have to do that?" This gives the respondent a chance to get in a little ego involvement and he will usually lay the situation here. For example, suppose you wish to find out if the skills being taught are those currently used in a given industry. I might ask, "why does the corpsman have to learn to repair so many different brands of typewriters?" Patiently, I am told that very few companies are large enough to have a specialist for each typewriter and although they are similar, each has some rather unique characteristics. In fact, we have a manual that lists each make and the corpsman simply identifies the problem, and the manual tells him what parts are probably causing the trouble and on and on. From this, I know that the vocational skills are probably current, they are using manuals that are currently being used in the trade, that they have to be able to use an index, read, etc. My next step is to verify my findings with the student. He and I go into some corner, and I ask him the same question and give him a chance to show me how the manual works and how he would approach the job and the machines, etc. From one simple question, I gather all sorts of information on a variety of topics.

This brings up the problem of remembering key points. I have usually found that a few words on a pad will provide a rather complete set of notes after you leave the respondents. In fact, they seem to like to have you take notes as many consider this an indication of how valuable their comments are to you. Generally, I would not use a tape recorder because they make people too self-soncious and you can almost hear them say to themselves, "I had better not say that because I don't think the supervisor would like it." Most people are not anxious to stick out their necks and a tape recorder acts as a constant reminder that they have.

Perhaps you can tell that I am a great believer in the indirect method of gaining information. That is to say, what I seek is not always that which the respondent thinks I am after. For example, let's say that we are interested in finding out if vocational instructors are working closely with basic education instructors stressing the value of knowing how to read. I may say to the vocational instructor, "It seems like the corpsmen spend an awful lot of time in basic education." This will usually elicit the information I want. However, before I can draw any conclusion, I ask several instructors at random. In fact, I pick the people I want to talk to rather than having someone suggest names for me. This takes the pressure off of all concerned in the sense that the supervisor doesn't have to worry about whom to choose, the teacher doesn't wonder why he was selected, and I feel that I will be closer to the actual facts.

In all of this, I don't mean to imply that the program being evaluated will practice deceit. I refer instead to the normal human reaction to evaluation. If a program wants to hide something, they can do it. In fact, if this is the case, they probably won't consider your recommendations anyway and you might as well go home.

This brings up the topic of rapport. May I say that it is of crucial importance, as you will only scratch the surface without rapport. There are many techniques for doing this, but all are dependent upon unconditional acceptance of the other guy. It is not something that just happens, you have to work at it.

Another fruitful tool in evaluation is the projective technique. This is where you have an individual describe someone else when in reality he is talking about himself. For example, suppose you wanted to know if a given teacher had rapport with his students. Ask him to describe his students and you will learn a great deal about that teacher.

One of the more traditional, yet effective, tools in any evaluation process is the follow-up. It is time consuming if carried out properly, since it should be a longitudinal study. However, findings from a follow-up provides the evaluator with some of his best data. There is no better way to find out if any given program provides its students with the kind of education they need which is why an educational program exists. For example, from the very little I have told you about the MDTA program, how would you regard this program knowing that:

(1) Over 70% enter employment after training
(2) Three-fourths enter training-related jobs

(3) Over one-half have been continuously employed since they completed training.
(4) Three-fourths of those who were unemployed were either ill or experiencing family problems when they were contacted, but over one-half of these persons indicated a specific job they expected to take when they were well, or family problems were not as severe.
(5) 75 percent were employed full time at an average wage of $1.65 per hour.
(6) 80 percent of the trainees stated that their training helped them to obtain their present position.
(7) 70 percent of the employers gave specific reasons where the training was of value.
(8) The greatest problems of the trainee on the job were being on time, coming to work every day, and completing tasks with a minimum of supervision.

These findings supported the value of work experience and suggested that the basic and vocational training was directed toward the increasing skills. However, it was apparent that additional emphasis on work habits and modifications of attitudes would be appropriate. This recommendation is currently being implemented.

Motivation or personal development of acceptable work habits and social skills represents the most severe problems faced in MDTA programs and the Job Corps. Changes in this area are the most dramatic, yet the most difficult to measure. Instruments contribute to a partial evaluation in this area, but they are not sufficient in themselves. One must also consider overt behavioral changes as:

(1) Job performance such as work habits
(2) Community participation
(3) Reduction in public assistance
(4) Reduction in incarceration rates
(5) Effect on their children's performance in school

The key to attitude modification lies within the concept of involvement. That is, the individual who becomes actively involved with his peers and members of the total community in seeking the solution to a problem begins to perceive society and his own potential in a much different manner. For example, it was found that MDTA trainees exhibited the following kinds of progress after motivation classes:

(1) Responsibility in trying to help others
(2) Increased attendance at night school
(3) Participation in community affairs
(4) Increased awareness of the need for education
(5) Fewer legal problems
(6) Improved physical being and dress
(7) Acceptance of authority figures

Another tool that can be quite effective in the evaluation of a specific area is the written instrument. Let me make it clear that I do not refer to the mailed questionnaire. To me, such a step represents desperation and should be considered only in dire emergencies; and I have never encountered such an emergency yet. I would submit that a written instrument is of the greatest value in what Krathwahl and Bloom call the affective domain. I refer in this sense to attitudes and values. For example, in the MDTA program I wanted to find out if the trainee's attitude toward work was any different after he finished training than when he started. I consulted the literature, reviewed the University of Michigan scale, operationalized my terms, broke each to its component parts, and I had a scale to be pilot tested. Basically, the preparation of such scales is time consuming, but not overly difficult. One can establish the reliability statistically. Fact and content validity can also be established while other types of validity as concurrent validity are somewhat more difficult to establish.

We are currently involved in conducting evaluative research in several areas as:

Motivation
Student and teacher characteristics
Longitudinal follow-ups with greater employer emphasis
Validation of non-verbal aptitude tests
Development of norm populations

Drop out and attendance rates
Curriculum analysis
Cost analysis and return on public funds
Several studies on methods and materials
Administrative organization

Let me close by saying that there are other tools we could consider and principles we could discuss. However, there is not enough time just now and I would like to leave you with one thought. The purpose of evaluation is to implement meaningful change. The real test of any evaluator comes when he has finished. Has he helped this program to move ahead? If nothing happens, if the status quo is maintained, the evaluation has been a waste of everyone's time. Evaluation is really a tool, and like any other tool, if you know how to use it properly, the results can be outstanding.

# NATIONAL EVALUATION IN VOCATIONAL AGRICULTURE

by

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"Evaluation begins with planning and ends with replanning," stated H. N. Hunsicker, Chief, Agricultural Education Service, in response to questions raised by a panel during the recent National Conference on Evaluation at The National Center for Study and Research in Vocational Education, Columbus, Ohio.

It is important that we recognize that evaluation is not an end in itself. It is only an instrument of judgment for determining the effectiveness of accomplishments. Evaluation must begin with a planned, projected program of activities. Such a plan must be applicable locally, as well as at the State and National levels.

Agricultural education has been the leader in all of education in the matter of evaluation. Vocational agriculture teachers, supervisors, and teacher educators developed evaluative criteria and have used it since the inception of the Smith-Hughes Act. A nationally recognized program of evaluation was started among vocational agriculture departments in 1939.

Today we have new and impelling reasons for making evaluations. Some of these are: (a) To meet implied mandatory provisions in the Vocational Education Act of 1963, (b) To assure "quality control," (c) To meet an implied prerequisite for funding, (d) To motivate program leaders, (e) To assure that programs of instruction are geared to employment opportunities in the State and Nation and to peoples of all ages, (f) To determine whether the instruction is appropriate to the occupation, (g) To determine employability of students, (h) To maintain, extend and improve existing programs, (i) To develop new programs.

In addition, evaluation enables us to identify our current practices and to obtain the information that will enable us to replan our projected program of activities for ensuing years and provide encouragement to the accomplishments of the objectives as listed in our Objectives Bulletin on Vocational Education in Agriculture. In the future, State and National staffs in Agricultural Education will give far greater attention to obtaining accurate and essential data about the agricultural education program, not only for public consumption, but for fulfilling our legal responsibilities.

On a National level we are rapidly approaching an era of evaluation by reports. Increasing attention is being focused on the information collected by State and National staffs. So, I would like to emphasize the importance of insuring that this information truly represents the accomplishments at the local, as well as the State and National levels. If the data provided is inaccurate, then the whole agricultural education profession loses status. We will need to obtain an appreciation and general acceptance among teachers for the need of accurate information and especially information that will substantiate the accomplishments of their projected program of activities. In the future we will need facts on items which we have not previously obtained. For example, we are extending vocational agriculture instruction to city schools, we will need to know precisely what cities and how many students there are of these types, as well as the number of students in rural schools. We will also need facts about the types of courses which are offered and the training objectives of the students. Report forms for this purpose will soon be made available and it is hoped that they will be looked upon with the utmost importance since the result may have a direct bearing on agricultural education.

Let us therefore obtain and develop long range plans. Obtain the information as to the accomplishments of these plans and use the data in replanning. Let us take the initiative in evaluation, at least not make the evaluation complicated or involved. Let us do self-evaluation, as well as formal evaluation involving the team approach. By using formal evaluation, let us keep in mind that evaluation is a catalyst for change and is not to be feared unless change is feared. Evaluation encourages a progressive attitude. It is our job to encourage and promote evaluation of programs at all levels. I am sure we will rise to this challenge.

# ALTERNATIVES IN PROGRAM PLANNING

by

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For more than a decade before the passage of the 1963 Vocational Education Act, a number of leaders in agricultural education "champed at the bit" and rumbled aloud in protest to being tied to the "training for farming" concept in vocational agriculture. Through writings, conferences and private conversations, a lot of people worked for liberalization of the Smith-Hughes Act to permit training for off-farm agricultural occupations.

When the 1963 Vocational Education Act was passed and rules and regulations for its administration were issued by the U. S. Office of Education, some found that we had gotten even more freedom than we had hoped for. Now that we have virtually all the freedom to plan programs that we need, a good many people are perplexed about what to do.

A year ago this past May, I attended a conference at Ohio State sponsored by The Center, which dealt with off-farm agricultural occupations. After three days of discussions of alternatives to the traditional vo-ag program, it became increasingly apparent that our discussions were limited largely to vo-ag departments with two or more teachers.

It also became apparent that many of those attending were frustrated because they were thinking of that large majority of one-teacher departments back home for which the discussions were not germane. At that time, I estimated that 89 percent of the vo-ag departments in the United States were one-teacher departments. I would guess that well in excess of 80 percent are today one-teacher departments.

After the May meeting a year ago, I set about trying to see if some of the alternatives discussed could be adapted to single-teacher departments. I talked and corresponded with several teachers, teacher trainers, supervisors, and U. S. Office of Education staff members. Out of those discussions grew several patterns for a single-teacher department, which were drawn up and made available.

Since that time, these have been further refined and some have been added. I will discuss each of them with you, with the hope that they will provide a basis for discussion, consideration, and hopefully, some state staff assistance to the man in a single-teacher department who is asking: "What curriculum changes should I make?"

It seems to me that some good thinking has been done concerning alternative programs that may be conducted in multiple-teacher departments in secondary schools and in area vocational schools. I will not attempt to discuss programs that are appropriate for multiple teacher departments or post-high school programs. Before moving on, perhaps I should mention a couple which seem to me to merit special attention. A publication from the University of Kentucky, which I will refer to later, sets forth very clearly and in a challenging way some alternatives for a multiple-teacher department. Another very excellent proposal appears in the Empire State Vo-Ag Teacher, October, 1964 issue; it was written by Dr. Harold Noakes of the State Education Department in New York. If you would like a copy, I am sure that Dr. Harold Cushman at Cornell will be glad to send you a reprint.

In my discussion, I will set forth alternative plans for preparing students for occupations in agricultural business, in addition to production agriculture. I have not included in these plans alternatives dealing with preparation for ornamental horticulture, specialized agricultural mechanics, or other occupational areas. However, in several cases, these could be substituted quite easily for the agricultural business instruction proposed--especially in the case of ornamental horticulture.

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What, you may ask, does a paper on alternatives in program development have in a seminar where the focus is on evaluation? I cannot say what the program committee had in mind, but it seems to me that program planning and evaluation must go hand in hand. The evaluation must be in terms of the program or programs. Conversely, programs must reflect standards and criteria that will appear in the evaluation--assuming that these are valid.

My point is that evaluation should be based on the assumption that in any given state there may well be a dozen variations in programs, and that planning for evaluation must take this into account. If one were oriented toward the evaluation task only, he would find it much easier to develop a single pattern of program within a state. This would be administratively expedient but it would not likely be best for the students in that state and further would likely help lead us again to the problems that we encountered when we were oriented toward production agriculture only.

Plan #1 probably varies as little from our traditional programs as any. If you have a teacher in your state who does not want to make radical changes, yet is receptive to the idea that in a one-man department he can train boys for something besides farming, or in addition to farming, then here is a plan it seems to me, that has a good deal of promise. The main difference is in the 11th and 12th grades, in which, in addition to what is normally taught, the teacher begins to include instruction in such things as how to get a job; human relations; personality; and the other things that a boy must learn if he is going into agricultural business. In this plan, preparation for agricultural business per se, other than the instruction I just mentioned, would come largely from the work experience program.

## PLAN 1

This plan is favored by those who feel that substantive skills should be acquired in post-high school training, for those students who are able to perform at a skilled level. There will be some students in every school who do not have the ability to perform acceptably at the post-high school level; there is little chance for them to succeed in a technical training program. For them, specific trade training in high school may be justified. There are students who will likely become unskilled or semi-skilled workers.

For students who have the ability to succeed in post-high school vocational and technical programs, the high school program should be preparatory and general, leaving most specific skills acquisition until later. Many leaders in agricultural business say that the best preparation for students in high school who plan to enter the agricultural machinery business or sales of agricultural supplies and services is good grounding in production agriculture. This must include not only formal instruction but should emphasize farm experiences and experience in agricultural mechanics. They point out that agricultural businesses can provide the specific skills the individual needs after he is employed, but they cannot provide him the basic knowledge and appreciations of agriculture and farming that he needs in order to become an effective worker in their business.

| | |
|---|---|
| 9th Grade (single period) | Exploration of agriculture, career information, introduction to agricultural science, leadership training, start gaining experiences, (emphasis on home visits by teacher) |
| 10th Grade (double period) | Continuation of grade 9 studies; continued study of agricultural science; begin study of soils, feeds, plant food, career exploration continued; agricultural mechanics; experience program developed |
| 11th and 12th Grades combined (double period) | Alternate subject matter yearly. Production agriculture; continued agricultural science; agricultural mechanics training; for boys going into agricultural occupations special emphasis on personality, appearance, getting along with people, |

etc.; as agriculture units are taught, their value to boys going into different occupations is pointed out; continued experience programs. Some of those going into agricultural business will include off-farm occupational experience. College bound students will normally take only one period per day.

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*Based on suggestions by H. N. Hunsicker, U. S. Office of Education

Plan #2 may appear, at first, a bit complex. In grade 11, students who are oriented toward farming, take a double period of production agriculture. College oriented students take one period; the other period is used for a college preparation course. The agricultural business oriented students would enroll in one of the two periods, and the spare period would be either in distributive education, depending on how the program was set up, or in work experience programs. In the 12th grade, a single period of instruction is offered. In the Ag-Ed Magazine, you will see a great deal about independent study during the late thirties. In the Dalton Plan, initiated in Massachusetts, the teacher and the student have a contract. The student outlines to the teacher a plan for X weeks of study dealing with a certain topic, and they sign a contract. I'm not sure that kind of formality is used much now, but independent study, where students are working on what they are interested in, with the teacher serving as a consultant or stimulator, can be highly useful. I think that in a very small school where the students are going in at least three directions, it is one alternative worth considering.

## PLAN 2

9th Grade -- All students, single period. Introduction to agriculture, leadership, careers in agriculture, limited work in basic shop skills, introduction to agricultural science and production agriculture. Begin planning experience programs.

10th Grade -- All students, single period. Production agriculture, including agricultural mechanics, leadership, with continued career explorations by some. Experience programs underway on home farm, farm placement, or school land laboratory. Those interested in agricultural business would begin observation and exploratory experience in several businesses.

11th Grade -- Double period. Production agriculture, including agricultural mechanics. Emphasis on management begun.

Farming oriented students would enroll in both periods. They would also conduct experience program on home farm, farm placement or school land laboratory.

College oriented students would enroll in one of the two periods, using the spare period to enroll in a college prep course. Experience program appropriate for his educational and occupational aspirations.

Agricultural business oriented students would enroll in one of the two periods. Spare period in distributive education, or in experience program. Experience program either in a selected local agricultural business, or a continuation of the 10th grade experience in exploring possibilities through observation and limited experience.

12th Grade -- Single period. Instruction largely through independent and small group study under the guidance of the teacher.

Farm oriented students would continue study of farm management and farm mechanics, with emphasis on management decisions. Experience programs would be continued and strengthened.

College oriented students would concentrate more on the science of agriculture. Experience might be in farming or with a professional worker in the type of agricultural occupation for which he expected to prepare in college--as an aid to a teacher of agriculture, with a county agent, soil conservationist, and the like.

Agricultural business oriented students would concentrate study on units preparing them for that field. Would include a planned experience program in a local agricultural business. Spare period devoted to distributive education or work experience.

In Plan #3, the programs in the 9th and 10th grades, again, are very much as in Plan #2. I believe that this is very similar to at least one of the plans that is being considered in Alabama. The 11th and 12th grades are divided into two groups. Group A has a double period in agricultural production--preparation for farming. Parenthetically, we should note that this is not only for those boys who are going into production agriculture, or farming, but is also for those students who are preparing for a future or an occupation in which such training will be most useful. I think we need to remind ourselves occasionally that there are some jobs off the farm in which farm training may be the best kind of preparation we can provide.

Group B would be agricultural business consisting of a single period. You will note that specialized training in agricultural merchandising is offered during the student's senior year. This plan could also be combined very simply in grades 10 and 11, with separation into Group A and Group B at the 12th grade only.

## PLAN 3

This plan is designed for a school whose graduates are most likely to be interested in entering production agriculture or agricultural business. The agricultural business aspect is largely agricultural merchandising and related work.

| | |
|---|---|
| 9th Grade (single period) | All students; same content as Plan 2 |
| 10th Grade (single period) | All students; content similar to Plan 2 |
| Group A - AGRICULTURAL PRODUCTION | |
| 11th and 12th Grades (double period) | All students interested in agricultural production and those who plan further education for jobs for which training in production agriculture would be useful. Instruction in agricultural science and agricultural mechanics. Agricultural production experience would play a major role. College bound students would likely take only one period of instruction during one or both years. |
| Group B - AGRICULTURAL BUSINESS | |
| 11th and 12th Grades (single period) | All students who wished to enter agricultural business, especially agricultural merchandising. Experience in agricultural merchandising would be stressed. Those lacking adequate understanding of farming (if they needed it) would gain further farming experience. |

In the event it seemed wise to delay specialized training in agricultural merchandising until the student's senior year, this plan could be varied simply by combining grades 10 and 11; separation into Group A and Group B would be in the 12th grade only.

Plan #4 is a variation, a very slight variation, in fact, of a plan developed in Colorado. Again, Vo-Ag I and Vo-Ag II, the 9th and 10th grades, are essentially what we have been talking about all along. Grades 11 and 12, you will note, are combined. Group A consists of seniors who are preparing for farming and all Juniors, in the same class. The subject matter is alternated annually. This needs two periods per day.

## PLAN 4*

VOCATIONAL AGRICULTURE I - (Freshmen) One period daily, farm and non-farm agricultural occupations students together. Instruction in agricultural sciences, farm mechanics, and FFA . . . with supervised occupational experience on home farm, farm placement, school land laboratory, or in an agricultural business.

VOCATIONAL AGRICULTURE II - (Sophomores) One period daily, farm and non-farm agricultural occupations students together. Instruction in agricultural science, farm mechanics, and FFA . . . with supervised occupational experience on home farm, farm placement, school land laboratory or in an agricultural business.

Second semester would include a six weeks unit on "Careers in Agricultural Occupations."

VOCATIONAL AGRICULTURE III & IV

Group A - Seniors preparing for farming and all juniors combined in the same class, subject matter alternated yearly. Two periods per day.** Instruction in farm and home planning, farm management, machinery management, livestock and crop production, farm mechanics, and the FFA, for two periods daily for 30 weeks and one period daily during the last six weeks.

During the last six weeks the second period devoted to a separate class for juniors in "Orientation to Agricultural Occupations." This would prepare juniors to secure summer employment in agricultural occupations.

During the second period of the last six weeks, seniors would work independently in farm mechanics or pursue independent study on questions related to their farming programs.

Both juniors and seniors would continue their experience programs on home farm, farm placement, school land laboratory or in an agricultural business.

Should the total number of students in the department enrolled in agricultural business experience programs reach 10, the first period of this class should be omitted, reducing it to a single period course, to permit the instructor sufficient time for supervision (since more time is required for adequate supervision of students in non-farm agricultural occupation experience programs than in farming.)

Group B - Special Class in Agricultural Occupations for seniors who elect it and post-high school students. One period per day of class instruction in agricultural business plus occupational experience in agricultural business. Assuming that all enrolled were engaged in experience programs year-round, the class instruction might be reduced later in the year to two or three days per week to allow the students and instructor more time for occupational experience and supervision, respectively.

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*Adapted from a plan supplied by Dr. R. W. Canada, Department of Vocational Education, Colorado State University.

**The Colorado plan calls for 385 minutes minimum per week, presumably to meet State Plan requirements.

During the last six weeks, the second period is devoted to a separate class for Juniors in which they receive orientation to agricultural occupations. This is to aid Juniors in securing summer employment in agricultural occupations. This is probably where they are launched into agricultural occupations. During the second period of the last six weeks, seniors work independently on farm mechanics or pursue independent studies on subjects related to their supervised farming programs or supervised occupational experience. The plan reads, "Should the total number of students in the department enrolled in agricultural business experience programs reach 10, the first period of this class should be omitted, reducing it to a single period course, to permit the instructor sufficient time for supervision." That is an arbitrary figure, not one from Colorado, that I picked up along the eastern seaboard. In some discussions in our state concerning how many students a teacher can properly supervise in experience programs in agricultural business, one teacher suggested a maximum of five, and we have some who are estimating as many as twelve or thirteen. My guess now, and I make it tentative because we don't have enough experience with it to be more specific, is probably ten.

Plan #5 is a very slight variation of the one set forth by Harold Binkley in Kentucky. In this publication, Binkley raised a most important question, at least for 80 percent plus schools where agriculture is taught in this country, "Can teachers in single departments do anything about training in non-farm agricultural occupations, at the same time they are preparing some boys for farming?"

He looked at grade 12 from the standpoint of finding common elements. He identified ten different units which are important both to students preparing for agricultural business and to students preparing for farming. In the 12th grade all the students would be together for some ten units. Then, there would be three units taught only to students oriented toward farming, and three units taught only to agricultural business students. Dr. Binkley pointed out that if all Senior boys scheduling agriculture in the fourth period were in study hall or the library the fifth period, or some similar arrangement, a split class could be handled. The plan presents certain problems, of course, but it is possible under some certain circumstances.

## PLAN 5

This plan is an alternative suggested by Dr. Harold Binkley of the University of Kentucky in his publication* setting forth philosophy and guidelines for developing non-farm agricultural occupations programs. Dr. Binkley sets forth plans for providing several options at the 11th and 12th grade levels--forestry, agricultural business, horticulture, agricultural mechanization, production agriculture. All of these presume more than one teacher. He then raises a most important question. Can teachers in a single-teacher department do anything about training in non-farm agricultural occupations at the same time they are preparing some boys for farming? Assuming that enrollment in the 12th grade is too small to justify dividing the class into two groups, Dr. Binkley suggests the following.

Grades 9, 10, 11 -- the regular offerings in vocational agriculture

Grade 12 -- Instruction largely in units which should be useful to individuals whether they are preparing for farming or for agricultural-supply business--sales and service. Students oriented toward farming would be taught three units separately and those preparing for agricultural business would be taught three other units separately.

Units to be taught to the combined class of farming and agricultural business students:

Opportunities in agriculture
Agricultural mathematics
Human relations and personality traits
Advanced leadership training
Advanced feeds
Small engines and equipment
Seeds and seeding
Fertilizers and their use
Business procedures
Agricultural chemicals

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*Harold Binkley, "Initiating Program in Non-Farm Agricultural Occupations," Department of Agricultural Education, University of Kentucky, Lexington, October, 1965.

Units to be taught to farming oriented students only:
Planning farming programs
Farm management (evaluating selected factors)
Farm management (correcting selected factors)

Units to be taught to agricultural business students only:
Orientation to the program
Store skills
Salesmanship

Dr. Binkley points out that "with all senior boys scheduling agriculture the 4th period and study hall or library the 5th period (or any such arrangement), the split class could be handled."

The first two years of Plan #6 are not greatly different from the others. Grades 11 and 12, Vo-Ag III and IV, constitute a single period with subject matter alternating annually, as we have been doing for a half century in some situations with instruction in production agriculture. Another class is called Advanced Agricultural Science V, 11th and 12th grades, single period. This is designed for students who will very likely enter college or technical institutes to study agricultural or biological sciences. Prerequisites of one year of biology and one year of algebra are required to enroll in it. Vocational agriculture I and II are desirable, but not required for students who, by the beginning of the 11th grade, have decided that they might study agriculture or biological sciences.

## PLAN 6*

This plan is designed to provide preparation for agricultural business, special pre-college preparation in agriculture, as well as preparation in production agriculture. Agriculture I, II, III, and IV represent the typical program of instruction for students whose education is expected to terminate with high school and who will enter farming or occupations in which farm training will be useful.

VOCATIONAL AGRICULTURE I (9th grade) single period - Instruction in production agriculture, including farm mechanics, especially basic shop skills, leadership, exploration in agriculture, and career choice. Begin supervised farming or farm placement programs.

VOCATIONAL AGRICULTURE II (10th grade) single period - Instruction in production agriculture, farm mechanics, leadership. Increased emphasis on experience programs in farming or farm placement.

VOCATIONAL AGRICULTURE III & IV (11th & 12th grades) single period - Subject matter is alternated yearly. Instruction in production agriculture including farm mechanics, but with special emphasis on the management aspects of the subjects studied . . . evaluation of production practices in terms of economic consequences. Experience programs continued.

ADVANCED AGRICULTURAL SCIENCE V (11th or 12th grade) single period - Designed for students who will likely enter college or technical institutes to study agriculture or biological sciences. Prerequisites, one year of biology and one year of algebra; vocational agriculture I & II desirable but not required. Instruction in plant and animal nutrition, plant and animal breeding, plant and animal physiology, soil structure, and other agricultural science of a basic nature. Introduction to experimentation and the scientific study of agriculture. Experience programs to consist of experimentation and demonstrations, largely in a school land laboratory or greenhouse. Course should qualify to meet science requirement.

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*An adaptation of a plan developed by H. P. Addison, Purdue University.

AGRICULTURAL BUSINESS VI (11th or 12th grade) single period - Elective for students who have completed vocational agriculture I & II and who wish to prepare for an occupation in agricultural business. Study of agricultural business, including most of the units in Plan VI. Experience programs in local agricultural businesses would be required of students. Agricultural Business VI could well be coordinated with Distributive Education so that during his junior and senior year a student could take one year of each.

If it were desirable that Vocational Farm Management III & IV be of two-period duration, then Advanced Agricultural Science V and Agricultural Business VI could be alternated, with each being offered every other year.

Plans 7 and 8 are not limited to agricultural business. Preparation for agricultural business is a part of these two plans, but the major concern is a problem of a different nature. In the 9th and 10th grades, in Plan #7, the approach would be about the same as we have discussed in Plan #2, but in grades 11 and 12 the groups are divided according to ability. Group A we will call agricultural science; Group B, agricultural technology. Agricultural science is a single period course; this would make it possible for those students in agricultural science who plan to go to college to take one extra college prep course. The agricultural science course goes into agricultural mechanics to a minimum degree. The experience program is continued. But in the agricultural technology course, the emphasis is on agricultural mechanics. One of the first thoughts that may come to your mind is that the agricultural technology course will become known as the "dumping ground." In some schools, this is true. If your schools are like the schools in our state, there are a good many vo-ag departments that are known as dumping grounds entirely. This plan has the advantage that the agricultural science course will not likely be known as the dumping ground, although the agricultural technology course probably would be known as the dumping ground. This is a disadvantage in this particular plan.

## PLAN 7

This plan is based, to a considerable extent, on the same premises as Plan 2, in that it recognizes ability differences. However, it considers Group A as those who are capable of entering college, of eventually becoming farm owners, of becoming owners of agricultural businesses, or of succeeding in technical agricultural programs at the post-high school level. Most of these students are capable of succeeding in the academic curriculum if they choose to do so.

Group B consists of students who very likely could not do college work; however, many of them can and should enroll in post-high school vocational programs. Most of them will likely never occupy high managerial positions.

It is recognized that in this Plan, GROUP B: AGRICULTURAL TECHNOLOGY, may become identified as a "dumping ground." If this happens, it is likely that GROUP A: AGRICULTURAL SCIENCE, will become highly regarded in the school and will attract students of better ability. This plan will likely be especially favored in those schools in which vocational agriculture has had a poor image and better able students tended not to enroll in it.

| | |
|---|---|
| 9th Grade (single period) | (same as Plan 2) all students in same class |
| 10th Grade (single period) | (essentially same as Plan 2) all students in same class |
| 11th and 12th Grades (double period) | GROUP A: AGRICULTURAL SCIENCE<br>Emphasis on the science of agriculture, with limited training in agricultural mechanics; experience programs in production agriculture and/or agricultural occupations; most preparation for agricultural occupations through experience, independent study, and special emphasis in class. |

| | |
|---|---|
| 11th and 12th Grades (double period) | GROUP B: AGRICULTURAL TECHNOLOGY<br>Emphasis on agricultural mechanics, with less attention to agricultural science. Strong emphasis on experience programs, either production agriculture or off-farm agricultural occupations. |

In Plan #8, the 9th grade program is a variation of Plan #7. In grades 10 and 11, Group A is agricultural science students of average or above average abilities, using the whole class approach to instruction. Group A of the 12th grade is a single period and combines students in preparation for college or for agricultural business. Most of the instruction would be through independent or small group work under the direction of the teacher.

Group B, agricultural technology, provides ungraded instruction for students with less than average abilities and others wanting instruction in agricultural mechanics. Strong emphasis is placed on practical experience programs, including experience in production agriculture, even though many of the students would be preparing for non-farm agricultural occupations. Again, the criticism may be directed at Plan 8 in that the agricultural technology course might soon become known as a dumping ground for students. It might not, but I think it is being realistic to expect it. On the other hand, chances are grades 10, 11 and 12 of Group A would attract some high caliber students.

## PLAN 8

This plan is a variation of Plan 7 in that ability grouping plays a major role.

| | |
|---|---|
| 9th Grade (single period) | All students in same class--content same as Plan 2 |

GROUP A - AGRICULTURAL SCIENCE - students of average or above abilities.

| | |
|---|---|
| 10th and 11th Grades (single period) | Emphasis on the science of agriculture with limited training in agricultural mechanics; experience programs in production agriculture and/or agricultural occupations. Method of instruction: whole class approach. |
| 12th Grade (single period) | Students specialize in preparation for college, for farming, for agricultural business. Most instruction through independent or small group study under direction of teacher. Well-developed experience programs. |

GROUP B - AGRICULTURAL TECHNOLOGY - students of less than average ability and others who wish to prepare for work in agricultural mechanics.

| | |
|---|---|
| 10th, 11th and 12th Grades (double period) | Ungraded instruction, predominantly in agricultural mechanics; strong emphasis on practical experience programs, including experience in production agriculture, even though many of the students would be preparing for non-farm agricultural occupations. |

In this approach, the teacher would need to be competent to teach Group B completely and grades 10 and 11 of Group A. However, he might be less than completely competent in all aspects of study which students in Group A might undertake in Grade 12, yet he would be able to guide them in learning experiences through the use of resource materials and first-hand inquiry.

This ends the list of plans we have developed to date. I think we will continue to develop other alternatives, I am sure many of you are using and are considering alternatives that are not presented here.

I want to emphasize a point which I consider to be of the highest importance. LET US MAKE A CONCERTED EFFORT THROUGHOUT THE COUNTRY TO AVOID IN ANY STATE ONE PATTERN OF VOCATIONAL AGRICULTURE. For more than forty years, one could visit vo-ag departments all over the country and he would find that their courses of study, except for crops and livestock emphasized, all looked much alike. Instead of seeking sameness, let us encourage innovation, originality, and diversity in curricula among vo-ag teachers. This will take concerted effort for it will be tempting for us as state leaders to establish, with a few exceptions, a single pattern of program and extent it to all departments in the state.

Let us work toward more variety. Let us look toward some schools with specialized agricultural business curriculums only; some with varying combinations of these; and some with production agriculture only. But, very important, let us not forget that the main market for vo-ag graduates is for boys with farm experience and training in production agriculture. To repeat, let's not think singlemindedly. We know that single patterned programs are easier to administer, easier to design FFA contests for, easier to train teachers for, and easier in many other ways. But will they best serve our students?

# EVALUATION AND PROGRAM PLANNING

by

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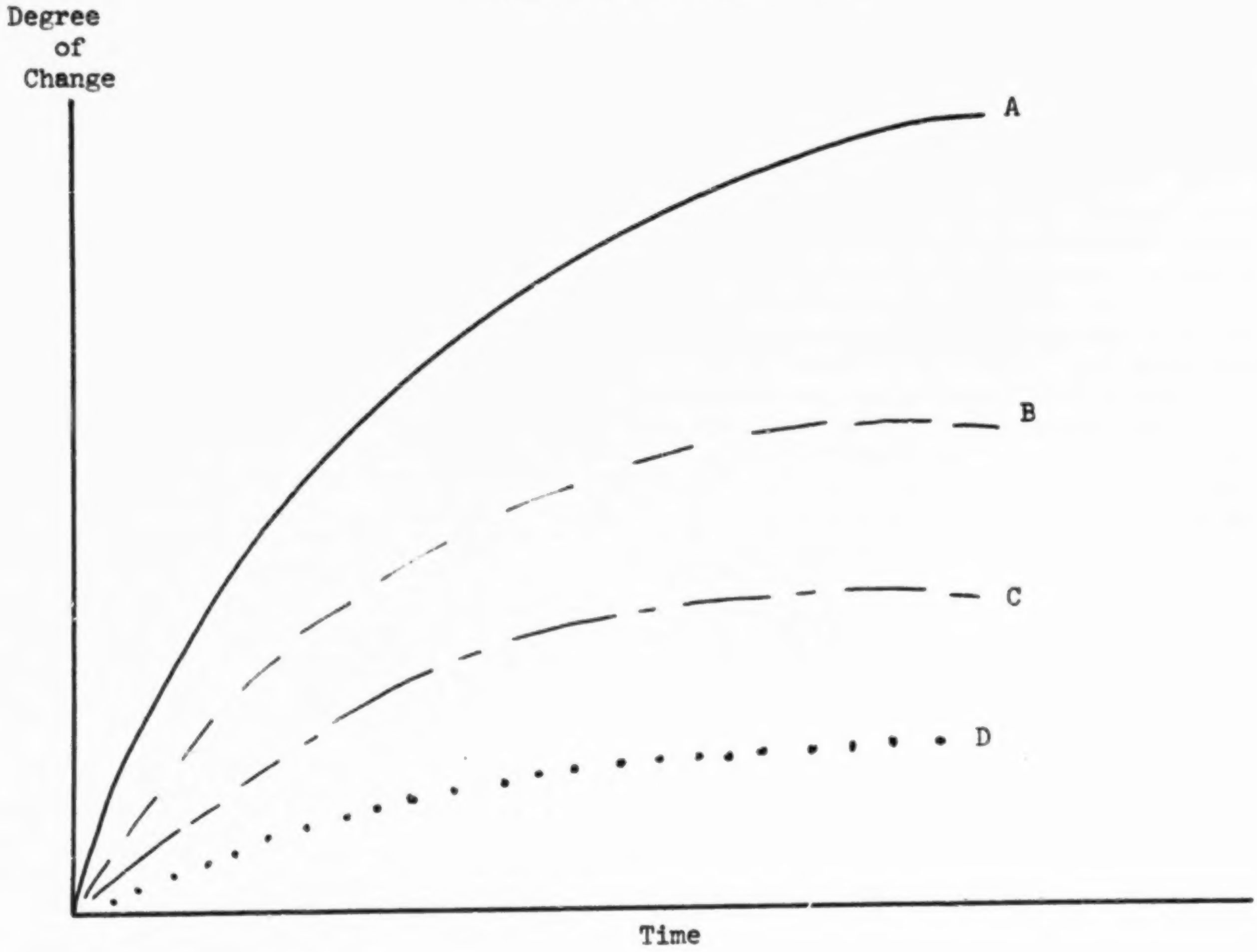

What approach to evaluation of agricultural education is required if we assume a rate of change nearer to "A" than "D"?

## EVALUATION
### Focused on Program Development

How do you, as a state leader, see evaluation of vocational agriculture? Do you have a clear image of the task and its purpose? Or, perhaps, is the image unclear and the purpose uncertain? Are the next steps clear? No?

A certain amount of turbulence is a healthy sign. At least one is not seeing evaluation as a simple terminal process for which all of the answers are known.

Evaluation in agricultural education may focus on many aspects of the program. Also, there are various levels from which the program is viewed. As leaders in the state you are involved at all levels. However, it is important to establish a unique focus on evaluation for state leadership. This paper seeks to describe and defend such a focus for state leaders in their current evaluative efforts.

As you may suspect, it is addressed primarily to supervisors and teacher educators.

### Leadership and Decisions[1]

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[1] James M. Lipman. "Administration and the Educational Program." Champaign, Illinois: Paper presented at National Evaluation Seminar, 1966. 22 p. (Report available from the author after August 1, 1966) Madison: University of Wisconsin.

Leaders in education make decisions and influence the decisions of others. Also, leaders have a major part in arranging for the decision-making process to operate.

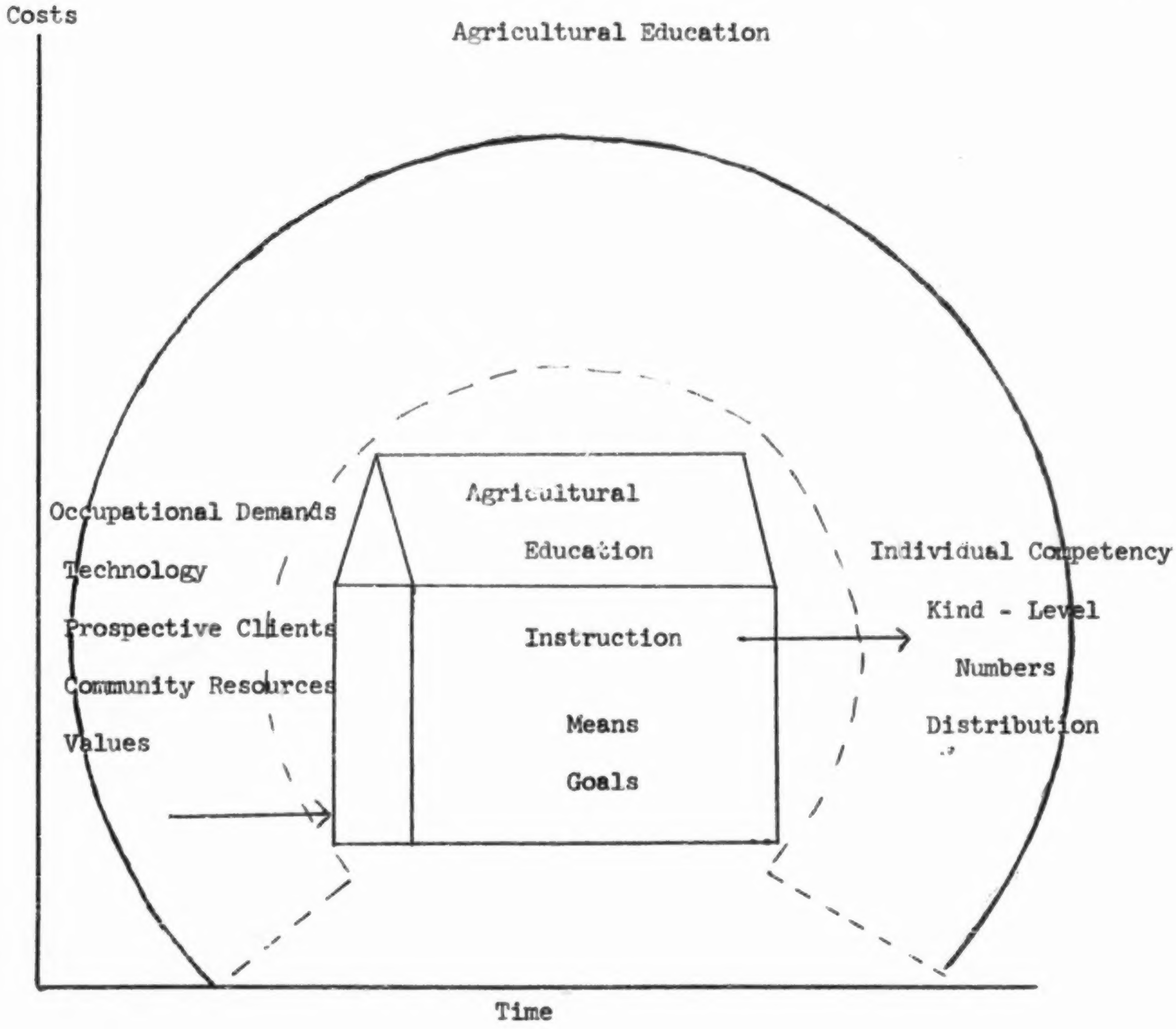
One area of decision making involves choices of goals and means. These are decisions which show where the action is to be. They are decisions which project the patterns of progress in programs. What is the place of evaluation in decision making? Let's see if it can not be given a special focus--a focus based on needs of leadership in decision making. You are concerned with agricultural education in particular. How do you see it on the big screen? Where are the key decision points?

## Decision Points[2]

Agricultural education may be viewed in terms of (1) intended mission; (2) its operation; (3) its achievement; or, (4) the inter-relationship of these data. For the most part it functions as semi-closed system. Major connections to other systems in the environment are (1) at the time of decision on goals or mission, and (2) through clients who leave. With this model there are: (1) In-puts, screened and purified within the system, which are used in determining (goals - means) or in defining the mission; (2) Operations or processing in which goals are set and instruction is designed and conducted to accomplish the mission; and, (3) Out-puts, which in this case are former clients having various kinds and levels of competency.

Figure 1

Agricultural Education


Costs
Agricultural
Education
Instruction
Means
Goals
Occupational Demands
Technology
Prospective Clients
Community Resources
Values
Individual Competency
Kind - Level
Numbers
Distribution
Time

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[2] Benjamin Kleinmuntz, Editor. Problem Solving: Research Methods and Theory. New York: John Wiley and Sons, Inc., 1966. pp. 225-257.

This view of agricultural education in simplified form is diagrammed in Figure 1. Time is included as a variable representing the difference between mission determination and accomplishment. Costs would constitute a second variable.

Granting that evaluation is concerned with a totality is not the same as saying that teachers, supervisors, evaluating teams and others are or should be equally committed. Each is concerned with a unique focus perceived as relevant to certain aspirations and obligations.

State leaders, it is believed, need a unique focus which involves evaluation of the goals and means sector as related to planning programs. They need a second generation model for evaluation, one which involves evaluation of futures.

Table 1 presents a schematic representation of evaluation at state, local, and Federal levels. I am certain this diagram greatly oversimplifies the problem. For example, state, local and Federal agencies are concerned with all uses of evaluation. But the relative importance of the use varies.

## Evaluation "Models"

At this time it may be well to take a look at evaluation as it is perhaps more generally seen. This is shown in diagram form in Figure II. Aren't the main questions along these lines?

1. How well did actual outcomes compare with intended outcomes? (Describe and Judge)

2. How does actual instruction compare with intended instruction? And is instruction congruent with intended outcomes?

3. What changes do we need to make in instruction?

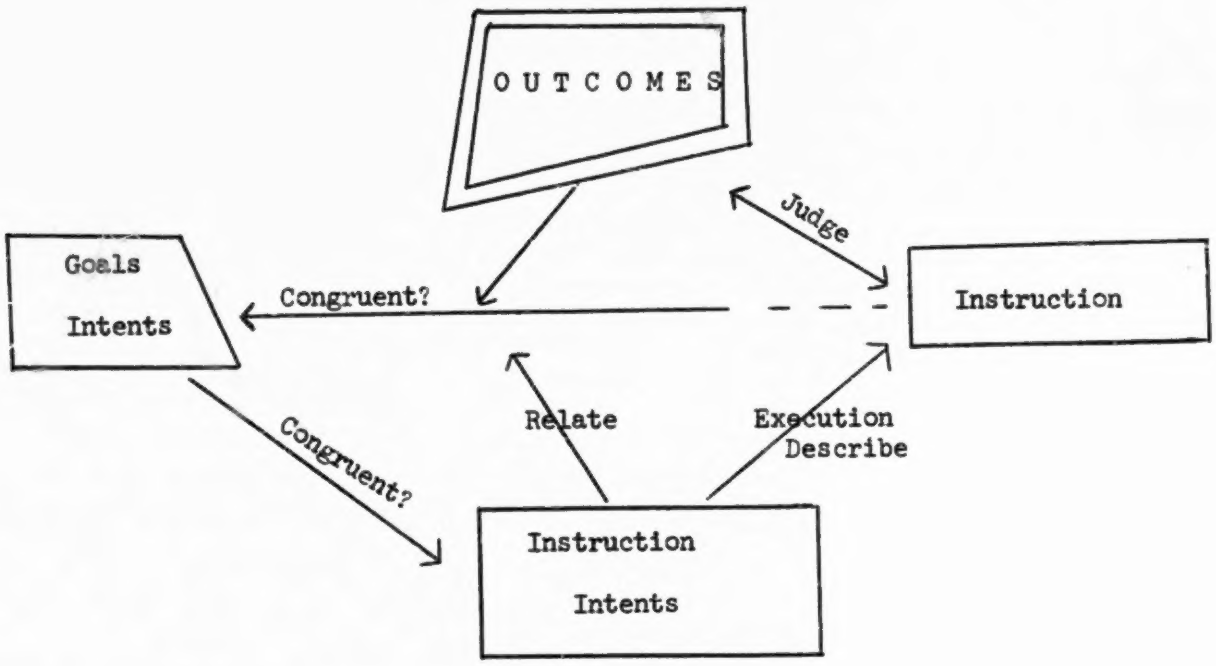
TABLE 1

Schematic Representation of Evaluation at Different Levels

| Evaluation Characteristics | Levels | | |
|---|---|---|---|
| | State | Local | Federal |
| Primary Use | Development Planning | Improvement | Reporting |
| Central Focus | Goals and Means | Instruction | Gross "Product" |
| Primary Orientation | Future | Present | Past |
| Units | State and Areas | Individual Students and Classes | Region and Nation |

Figure 2

Evaluation: M1
(Focus on Outcomes)



A significant weakness of this scheme is the neglect or tacit acceptance of goals or intended outcomes. Unfortunately, these earlier goals may have become outmoded even if well conceived at the time of their establishment. Teachers and others are often placed in the position of defending something they no longer believe. Our future in agricultural education is characterized by (a) more alternatives; and, (b) more rapid rate of change than was the case in early years. Evaluation is needed which helps teachers, administrators and citizens to make better decisions. These decisions concern the goals--the priorities of clients--types and levels of instruction and the means to achieve them. They often involve more than minor incremental improvements which all too often have reflected on the instructor.

Can we evaluate with a focus on the goals and means? Usually we settle for the results or output but actually what is their value in terms of the future? Or, perhaps, we focus on the instructional process. Here again, there is little evidence that this is fruitful. Isn't it about time to recognize the teachers and local administrators as professional persons?

To help us think of evaluation focused on charting tomorrow's program let us look beyond our field.[3]

1. One of our satellites uses two cameras. The first scans a broad field in limited detail. The other is directed by findings of the first to examine a narrow range in detail.

2. The budget process in farm management involves estimates of cost and returns from a number of alternatives.

3. In political areas decisions usually include a mix of "mutual partisan influence" and central coordination.

---

[3] Amitai Etzioni. "On the Process of Making Decisions." Science, Vol. 152. May 6, 1966. pp. 746-47.

In all of these examples full use is made available data. It is assumed that considerable data are available for the program, and that these data are used in the proposed focus on evaluation.

In Figure III a model for evaluation is presented which focuses on goals. It follows from, or is built on to, prior evaluation at local or state levels. It is designed to answer the question, "Where do we go from here?". It employs a number of stages and perhaps as many groups of persons.

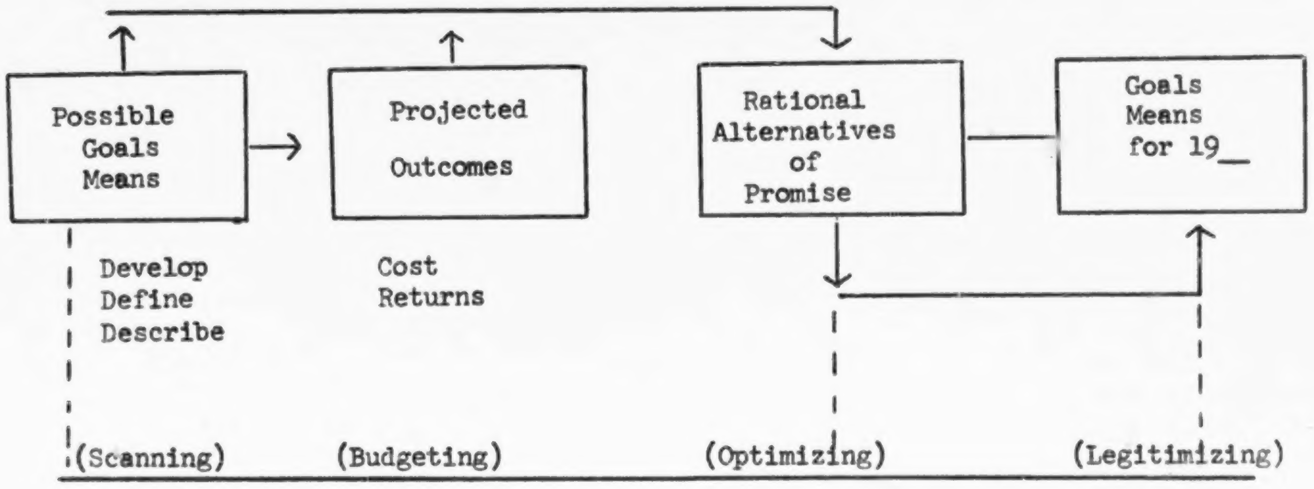
In stage one efforts are made to identify and describe possible goals. At this stage every effort is made to "scan broadly" for possible goals--for problems or contingencies likely to influence goals. Hopefully those involved will improve their ability to communicate in "goal-language."

The second stage is a rational budgeting-out of these alternatives. All recognized data are utilized. On this basis a number of possible goals can be eliminated. Those which remain are tentative.

Figure 3

Evaluation: $M^2$

(Focus on Goals)



In the third stage provision is made for identification of promising alternative combinations. These alternatives are then presented for criticism in stage four. i.e., How do various interest groups feel about them? What kind of support can be expected? This presumably leads to some reduction of goals or new combinations. It involves a summary of the revised goals which have passed rational and social tests. These new goals--means decisions constitute the chief outcome of evaluation.

Now let us contrast the "key evaluations" question presented earlier with those which can be inferred from Evaluation: $M^2$

| | |
|---|---|
| 1. How well did actual outcomes compare with intended outcomes? (Describe and Judge) | What new goals or changes can we consider? How do they compare with the present? |
| 2. How does actual instruction compare with intended instruction? And is instruction congruent with intended outcomes? | What combinations of goals are promising according to rational tests? What most likely to win support? |

| | |
|---|---|
| 3. What changes do we need to make in instruction? | What, if any, additional steps are required to legitimize these goals? |

It may be helpful to suggest other sample questions relative to (1) evaluation of goals; or (2) an evaluation of the processes used in setting the goals. Examples of such questions follow:

### Where

In general it is assumed that the State Boards of Education exercise influence in (a) initiating new programs and (b) approving and funding programs. Whether one is to concede that all innovations in program arise here is doubtful. It would seem more appropriate to recognize that innovations must be adopted at the school level and that they may be initiated there. At least these constitute two decision points. Evaluation should be concerned with both.

### What

To what extent have alternatives in terms of program goals and service been developed? elaborated? disseminated? encouraged?

To what extent have alternatives been projected relative to numbers and types of clients? and costs?

To what extent has, or is, each local program developed on the basis of a consideration of the promising alternatives?

To what extent were "partisan" influences permitted a hearing on projected alternatives?

### Who

Who were directly involved in efforts to develop alternatives?

Who studied the broad horizon? Who did the screening of raw data?

Who participated in "budgeting out" the alternatives?

Who was responsible for the final decision as to the program to be offered?

### How

To what extent were evaluative data related to other phases of the program utilized?

To what extent were "projected" data utilized in scanning for best alternatives?

To what extent were data utilized in comparing alternatives?

Were programs--goals and means--compared with prior years in regard to direction and extent of change?

## Possible Advantages

It cannot be claimed that the proposed focus of evaluation on goals has been researched and tested. It has worked in the case of some teachers enrolled in a program-planning course. Hence, advantages are largely postulated on the basis of ideas in other disciplines. This is a dangerous business to be sure.

1. It contributes to more clearly perceived and precisely defined goals. A first essential to organization of program or planning for teaching. Also, an essential consideration if one is to make evaluation of outcomes especially significant.

2. It is supportive of change in agricultural education "geared directly to the larger social framework." Furthermore, this continued assessment of alternatives and climate of change is likely to be a motivating factor for teachers.[4]

3. It is an approach which leads to early large-scale change as opposed to "fragmented incremental" change which usually results from evaluating outcomes only.[5]

4. It minimizes teachers' anxiety and usually elicits a responsive interest on the part of teachers and others.

5. It seeks to go outside of the institutional patterns and program--to create a more open and responsive system of agricultural education.

## Limitations

(You will be able to see many. Let me point out some.)

1. Different kinds of goals must be considered. These involve kinds and numbers of clients, as well as behavioral or learning outcomes. It is difficult, and perhaps dangerous, to separate goals from means. Thus, a listing of possible goals-means is no simple task.

2. Simplification of Model II is needed.

3. We do not have computer programs to handle rational data relative to determining optimum goal combinations. Hence, one easily may get discouraged. At present, the solution is to limit arbitrarily the number of alternatives or combinations considered.

4. After all data are collected and summarized the evaluator(s) may not feel that they should do more. In some instances there is no need for further action. Usually, however, their presentation is an important step to having major changes in goals legitimized.

## Summary

In summary, this paper defines and defends a unique role for state leaders in the evaluation of agricultural education. Decision-making is perceived as a central factor favoring a focus of evaluation on goals rather than outcomes. This focus, it is contended, makes evaluation a means to probe and plan for the future at a critical point. Further, in states or communities undergoing rapid change, the focus on goals is seen as more dynamic than one which centers on outcomes.

A multi-stage model of evaluation with a focus on goals is proposed as an approach to improving planning. Much more development of this model is recognized as necessary prior to general use. But early efforts on a trial basis are recommended along lines suggested in supplementary materials.

# PART II

# COMMITTEE REPORTS

Committee Task: To Develop Criteria for Evaluation in Vocational Agriculture

Committees:

(1) High School Youth
Chairman, Ray Agan, Kansas

(2) Youth With Special Needs
Chairman, John Adams, Kentucky

(3) Post High School Educational Programs
Chairman, Dale Aebischer, Wisconsin

(4) Working Youth and Adults
Chairman, George Ekstrom, Missouri

(5) Services and Facilities
Chairman, Leonard Kunzman, Oregon

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# HIGH SCHOOL YOUTH

## Committee Members

| Name | State | Name | State |
|---|---|---|---|
| Ray Agan, Chairman | Kansas | Robert R. Price | Oklahoma |
| Garry R. Bice | Vermont | Jose Lema | Puerto Rico |
| Harry W. Kitts | Minnesota | Clifford Haslick | Michigan |
| C. Oscar Loreen | Washington | Donald D. Brown | Oklahoma |

I. Relative evaluative components for programs for high school youth are:

1.1 High School and Community Relationships
1.2 High School Curriculum
1.3 Teaching Methods
1.4 Occupational Experience
1.5 High School Guidance
1.6 High School Placement
1.7 Follow-up

### 1.1 High School and Community Relationships

Guiding Statement:

Teachers of vocational agriculture should effectively participate as members of their faculties in developing local school programs which offer maximum educational opportunities for all youth and adults served. Facilities, approximating those which individuals utilize at the time of gainful employment, should be appropriate for the program. Public understanding and desirable attitudes toward the total program of vocational agriculture should be achieved.

A. Some Facts and Figures

B. Selected Trends

C. Outcomes or Results:

Use local interviews, observations and discussions as a basis for appraisal of results. Evaluation scale: 5=excellent; 4=good, 3=average, 2=fair; 1=poor.

5 4 3 2 1 (1) Students, parents, faculty and the public satisfactorily understand and are developing a favorable attitude toward the vocational agriculture program

5 4 3 2 1 (2) Facilities are adequate in size, suitably arranged and properly maintained to provide a desirable learning environment

5 4 3 2 1 (3) Financial support is adequate to provide instructional materials and supplies

5 4 3 2 1 (4) Vocational agriculture is recognized and supported as an integral part of the total school program

D. Evaluation of Area

E. Recommendations for Further Improvement

### 1.2 High School Curriculum

Guiding Statement:

The appropriate Vocational Agricultural curriculum should be so designed that when a student has completed his course of study in this field, he will be ready to take his

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place as a responsible citizen in his community, either as a production farmer, or as a highly skilled, well-oriented, confident worker ready for gainful employment in a closely related field of agricultural endeavor.

A. Some Facts and Figures

B. Selected Trends

C. Outcomes or Results

Use local interviews, observations and discussion as a basis for appraisal of results. Evaluation scale: 5=excellent; 4=good; 3=average; 2=fair; 1=poor.

5 4 3 2 1 (1) Curriculum was planned, based upon the present and future employment needs in agricultural occupations

5 4 3 2 1 (2) A practical, working long term plan is used for implementing, improving and up-dating the curriculum

5 4 3 2 1 (3) School and community representatives are used in a continuing evaluation of the curriculum

D. Evaluation of Area

E. Recommendations for Further Improvement

1.3 Teaching Methods

Guiding Statement:

Teaching efforts should be directed toward providing a maximum of problem solving and decision making experiences for students. Wide use of appropriate techniques is mandatory in order to achieve effective and economical student attainment of needed and desirable skills, knowledge and attitudes. Implementation of planned learning experiences should be objectively oriented, goal centered, and directly related to presently provided occupational experiences for the learner.

A. Some Facts and Figures

B. Selected Trends

C. Outcomes or Results

Use local interviews, observations and discussion as a basis for your appraisal of results. Evaluation scale: 5=excellent; 4=good; 3=average; 2=fair; 1=poor.

5 4 3 2 1 (1) Appropriate and adequate amount of teaching time is allocated to the more important job oriented units of instruction

5 4 3 2 1 (2) Students are challenged by problem solving decision-making methods of instruction

5 4 3 2 1 (3) Students are making desirable changes in their individual supervised occupational experience programs as a result of instruction received

5 4 3 2 1 (4) Appropriate joint efforts, such as team teaching, are engaged in by the several vocational services in the school

D. Evaluation of Area

E. Recommendations for Further Improvement

1.4 Occupational Experience

Guiding Statement:

High school youth enrolled in Vocational Agricultural courses will receive practical experiences through supervised farming programs, farm placement, land laboratories or through employment in non-farm agricultural businesses, industries and services. Such experiences shall lead to the development of skills, abilities, attitudes and competencies necessary for entrance into chosen agricultural occupations or closely related cluster of agricultural occupations. The number of hours per week and the duration of the experience program will be of sufficient length to prepare students for job entry.

A. Some Facts and Figures

B. Selected Trends

C. Outcomes or Results

Use local interviews, observations and discussion as a basis for your appraisal of results. Evaluation scale: 5=excellent; 4=good; 3=average; 2=fair; 1=poor.

5 4 3 2 1 (1) The supervised occupational experience programs result in sound student business relationships with parents and prospective employers

5 4 3 2 1 (2) Meaningful supervised occupational experience programs are provided for those students with limited opportunities through placement for experience and/or employment

5 4 3 2 1 (3) Supervised occupational experience programs are planned to provide a maximum of scope and quality to insure adequate learning experience for a job placement

D. Evaluation of Area

E. Recommendations for Further Improvement

1.5 High School Guidance

Guiding Statement:

Guidance is a function of vocational education in agriculture. Appropriate guidance should be an integral part of the high school vocational agriculture student's instructional material. The ultimate objective is to make the student more knowledgeable about occupations and how to measure and evaluate his resources, including aptitudes, interests, and aspirations. Such guidance comes early in the Vocational Agriculture course of study and should be continuous.

A. Some Facts and Figures

B. Selected Trends

C. Outcomes or Results

Use local interviews, observations and discussion as a basis for your appraisal of results. Evaluation scale: 5=excellent; 4=good; 3=average; 2=fair; 1=poor.

5 4 3 2 1 (1) Individual student conferences are held

5 4 3 2 1 (2) Appropriate tests are given each student to access his aptitude, interest, etc.

5 4 3 2 1 (3) Qualified guidance personnel interpret the results of these tests and relay it on to the student

5 4 3 2 1 (4) Test information is interpreted in terms of occupational suitability to the student

5 4 3 2 1 (5) Students have easy access to current occupational information

5 4 3 2 1 (6) Students are exposed to a variety of agricultural occupations at various employment levels in the community

D. Evaluation of Area

E. Recommendations for Further Improvement

1.6 Placement

Guiding Statement:
Upon the successful completion of a vocational agriculture program leading to occupational entry in a specific occupation, each student should expect from his occupational advisor, placement in that occupation as a beginning employee. Occupational placement should be initiated by the instructor and carried out cooperatively by the instructor, student, and employer. The selection of the job and business of employment should be made after careful alignment of the student's interests, abilities, and instruction with the work requirements of the job opportunity.

A. Some Facts and Figures

B. Selected Trends

C. Outcomes or Results
Use local interviews, observations, and discussion as a basis for your appraisal of results. Evaluation scale: 5=excellent; 4=good; 3=average; 2=fair; 1=poor.

5 4 3 2 1 (1) Surveys are conducted to determine employment opportunities and businesses in the community

5 4 3 2 1 (2) The employment security or other agencies and/or groups are involved in placing students

5 4 3 2 1 (3) Definite procedures are set up and followed in placing students

D. Evaluation of Area

E. Recommendations for Further Improvement

1.7 Follow-up

Guiding Statement:
A planned and organized system of "following-up" students upon completion of the agricultural educational program should be practiced. Information concerning the occupational achievement of each student, plus reactions to the value of the program, should be gathere on a periodic basis and used in the evaluation of the educational program, in order to keep it attuned to the needs of students and demands of the labor market.

A. Some Facts and Figures

B. Selected Trends

C. Outcomes or Results
Use local interviews, observations, and discussion as a basis for your appraisal of results. Evaluation scale: 5=excellent; 4=good; 3=average; 2=fair; 1=poor.

5 4 3 2 1 (1) Adequate and appropriate procedures are utilized to follow-up students upon completion of the vocational program to obtain the needed information such as:
number of students gainfully employed upon graduation, number unemployed, number of students who were employed full-time, number of students employed part-time, number of graduates who entered the armed forces, number of students employed in occupations for which they were trained, and number in related occupations

5 4 3 2 1 (2) The information gained from the student follow-up procedures is utilized to make needed adjustments in the vocational program

D. Evaluation of Area

E. Recommendations for Further Improvement

## YOUTH WITH SPECIAL NEEDS

### Committee Members

| Name | State | Name | State |
|---|---|---|---|
| John M. Adams, Jr.<br>Chairman | Kentucky | William L. Hull | Oklahoma |
| W. H. Annis | New Hampshire | F. E. Kirkley | South Carolina |
| Duane L. Blake | Iowa | Howard W. Martin | Connecticut |
| Howard I. Downer | Pennsylvania | Raymond C. Northup | Rhode Island |
| John C. Foltz | Washington, D. C. | Jack Pritchard | Oklahoma |
| Charles W. Hill | New York | Sid Sutherland | California |
|  |  | Richard Wilson | Ohio |

I. The major components for evaluating programs for youth with special needs might be:

1.1 Curriculum
1.2 Relationships With the School
1.3 Teaching Methods
1.4 Occupational Experience
1.5 Guidance and Counseling
1.6 Facilities
1.7 Community Relations
1.8 Placement

1.1 Curriculum

Guiding Statement:

A vocational agriculture department should provide the opportunity for instruction to individuals or groups of individuals who struggle with academic or socio-economic handicaps. The instruction should be based on the needs of this special group.

A. Some Facts and Figures

1. Number enrolled in vocational agriculture that have been identified as youth with special needs. ____________

2. What instruments and procedures are used to identify school and community youth with special needs in agriculture? ____________

3. Number of hours of instruction time per week for:
   a. The special group ____________.
   b. The total vocational agriculture program ____________.

4. Number of identified youth engaged in a bona fide pre-employment occupational experience program. ____________

5. Number of teacher-directed family contacts. ____________

6. Number of youth participating in the Future Farmers of America organization. ____________

7. Number of students employed in occupations related to the training program. ____________

8. Percent of identified youth who continue in school. ____________

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9. Number of special resource people used to plan and carry out the educational program for these identified youth. ______________

10. Number of vocational agriculture students enrolled in vocational work study program. ____________

11. Number of youth enrolled in MDTA courses in agriculture. __________

12. Number of youth enrolled in work-training projects under title 1-B of EOA that are related to agriculture. ________________

### B. Selected Trends

1. What proportion of the identified youth in the community are enrolled in the vocational agriculture department this year? _______, last year? _____, two years ago? _______.

### C. Outcomes or Results

Use local interviews, observations, and discussion as a basis for your appraisal of results. Evaluation scale: 5=excellent; 4=good; 3=average; 2=fair; 1=poor.

5 4 3 2 1 (1) Students are being trained for special tasks which qualifies them for employment for which they are capable

5 4 3 2 1 (2) Teacher has been allocated time for additional help to provide this service

5 4 3 2 1 (3) The instruction is interesting and useful to the students

5 4 3 2 1 (4) Youth with special needs have been served by the vocational program

5 4 3 2 1 (5) The instruments used to identify youth are effective

5 4 3 2 1 (6) Students have progressed toward their goal relative to their ability

5 4 3 2 1 (7) The outlook of the students toward themselves and their environment has become more realistic

### D. Evaluation of Area

### E. Recommendations for Further Improvement

1. Summer instruction in agriculture for youth with special needs. Examples might be: a) horticulture, b) agricultural mechanics

2. Employment experience during the school day with related instruction during the evening

3. Alternate two groups for employment experience and class instruction using some training centers

4. Use students for work study under section 13 of the Vocational Education Act of 1963

5. Teachers could contract custom work with high achieving students as supervisors during out-of-school time

6. Programmed instruction for specific individual agriculture interests could be provided

## POST HIGH SCHOOL

### Committee Members

| Name | State | Name | State |
|---|---|---|---|
| Dale C. Aebischer, Chairman | Wisconsin | L. R. Hilterbrand | Indiana |
| W. C. Dudley | Virginia | James Oliver | Virginia |
| T. L. Faulkner | Alabama | Juan Robles | Puerto Rico |
| Jerry Halterman | California | R. L. Taubert | West Virginia |

I. Relative evaluative components of the post high school program:

- 1.1 Curriculum Content
- 1.2 Teaching Methods
- 1.3 Occupational Experience
- 1.4 Facilities - Human, Physical, and Natural Resources, etc.
- 1.5 Guidance and Counseling - projected employment needs, placement, follow-up and retention, recruitment and selection of students
- 1.6 Public Relations - School and Community Relationships
- 1.7 Qualified Personnel

### 1.1 Curriculum Content

Guiding Statement:

Appropriate courses of study should be planned to fulfill the interests, needs and capacities of the students and the national demands for the training courses should be supported by a sound program of basic scientific knowledge in the fields of mathematics, biology, physics, and chemistry with added emphasis in any one of them to fill a need, interest, or special capacity. Applied courses should provide for adequate experimental and/or laboratory participatory experiences.

Pertinent Generalizations and Definitions

a. A major field is determined by the successful completion of a minimum of ____ credit hours in any one field.

b. Applied courses may be defined as courses in any one of the following fields: Animal Science, Business Management, Horticulture, Field Crops, Agricultural Mechanics, Agricultural Education and Agricultural Extension.

c. A post high school degree may be earned upon the successful completion of a minimum of credit hours established by the institution.

d. Elective courses may be earned in any of the major fields and may include military or physical education courses.

A. Facts and Figures

Suggested curricula for post high school program

Communications ______
Natural Sciences ______
Mathematics ______
Social Sciences ______
Applied Courses ______
Electives ______

B. Selected Trends

| | Two Years Ago | Last Year | This Year |
|---|---|---|---|
| Enrollment by curricula | ____ | ____ | ____ |
| Percent of students completing course by curricula | ____ | ____ | ____ |
| Percent of students placed in occupation for which trained | ____ | ____ | ____ |
| Number of meetings of advisory groups | ____ | ____ | ____ |

C. Outcomes or Results

Use local interviews with administrators, employers and students. Observe performance of students and check on proficiency of their work. Evaluation scale: 5=excellent; 4=good; 3=average; 2=fair; 1=poor.

5 4 3 2 1 (1) Curriculum designed to teach the skills and competencies necessary for specific occupations

5 4 3 2 1 (2) Are the students learning the desired skills necessary for specific occupations?

5 4 3 2 1 (3) The students are developing competency in social, recreational, civic, and leadership responsibilities.

5 4 3 2 1 (4) The students are becoming successfully established in the occupation.

5 4 3 2 1 (5) The curriculum showed provides the basis for continuing education.

D. Evaluation of Area

5 4 3 2 1 To what extent does the school provide post high school education in agriculture for students which is based upon their needs and which contribute to their successful employment in an agricultural occupation.

E. Recommendations for Further Improvement

# WORKING YOUTH AND ADULTS

## Committee Members

| Name | State | Name | State |
|---|---|---|---|
| G. F. Ekstrom, Chairman | Missouri | George Lange | New Jersey |
| M. G. McCreight | Nebraska | V. B. Hairr | North Carolina |
| W. T. Taylor | Mississippi | Jim Durkee | Wyoming |
| David F. Shontz | Rhode Island | T. L. Barrineau | Florida |

I. Relative evaluative components for programs for working youth and adults:

1.1 Philosophy - Policy
1.2 Relationships with the School
1.3 Curriculum
1.4 Teaching Methods
1.5 Upgrading Occupational Experience
1.6 Vocational Guidance and Counseling
1.7 Community Relations
1.8 Placement and Advancement

### 1.1 Philosophy - Policy

Guiding Statement:

Vocational and technical education in agriculture provides the training and education needed by working persons of all ages in all communities who may benefit from instruction in agriculture. The instruction is based on the individual and occupational needs and contributes to their efficiency and success in an agricultural occupation; desire for continuing education; and provides a better understanding and appreciation of their place in society.

A. Some Facts and Figures

B. Selected Trends

C. Outcomes or Results

D. Evaluation of Area

E. Recommendations for Further Improvement

### 1.2 Relationships With the School

Guiding Statement:

All public school personnel concerned (teachers, boards of education, administrative personnel, etc.) recognize their responsibilities for providing a continuous educational program to satisfy the needs of working youth and adults to become up-dated in skills, abilities and understandings in their specific occupations and personal growth.

A. Some Facts and Figures

B. Selected Trends

C. Outcomes or Results

D. Evaluation of Area

E. Recommendations for Further Improvement

1.3 Curriculum

Guiding Statement:
An appropriate course of study planned in line with the educational and occupational goals of the students. It is of such depth and breadth as needed to provide instruction sufficient to develop the needed and desired competencies of those enrolled.

A. Some Facts and Figures

B. Selected Trends

C. Outcomes or Results

D. Evaluation of Area

E. Recommendations for Further Improvement

1.4 Teaching Methods

Guiding Statement:
Methods of instruction are appropriate to the subject matter being taught, suitable for the age, ability, and goal of the students and sufficiently varied to challenge their interest.

A. Some Facts and Figures

B. Selected Trends

C. Outcomes or Results

D. Evaluation of Area

E. Recommendations for Further Improvement

1.5 Upgrading Occupational Experience

Guiding Statement:
Working youth and adults established in business have gained and are gaining occupational experiences. The efforts with this group is to provide opportunities for advancement in abilities and judgments as well as improved attitudes.

A. Some Facts and Figures

B. Selected Trends

C. Outcomes or Results

D. Evaluation of Area

E. Recommendations for Further Improvement

1.6 Vocational Guidance and Counseling

Guiding Statement:
Adequate vocational guidance and counseling service is provided for the working youth and adult students. This includes those entering training for upgrading, and retraining for change in occupations. Appropriate techniques of guidance will be used to determine highest potentials of attainment and follow-up records will show the progress of the student (employment history, change in attitudes, attainments, etc.).

A. Some Facts and Figures

B. Selected Trends

C. Outcomes or Results

D. Evaluation of Area

E. Recommendations for Further Improvement

1.7 Community Relations

Guiding Statement:
Appropriate use is made of community resources in planning and implementing instructional programs. The public is kept informed regarding developments.

A. Some Facts and Figures

B. Selected Trends

C. Outcomes or Results

D. Evaluation of Area

E. Recommendations for Further Improvement

1.8 Placement and Advancement

Guiding Statement:
Appropriate Agricultural Education programs are provided to meet the needs of working youth and adults in a changing society. Training programs are designed to upgrade the workers. Adequate follow-up information is provided.

A. Some Facts and Figures

B. Selected Trends

C. Outcomes or Results

D. Evaluation of Area

E. Recommendations for Further Improvement

## SERVICES AND FACILITIES

### Committee Members

| Name | State | Name | State |
|---|---|---|---|
| Leonard Kunzman, Chairman | Oregon | W. C. Montgomery | Kentucky |
| R. A. Baker | Alabama | Don Pennington | Indiana |
| Bill Becker | Wisconsin | Paul Sims | Illinois |
| Homer Edwards | Illinois | Warren Weiler | Ohio |
| L. L. Lewis | South Carolina | Bill Williams | Pennsylvania |
| | | L. C. Dalton | New Mexico |

I. The major components for evaluating program services and facilities are as follows:

1.1 Services in Agriculture
  1. Guidance and Counseling
  2. Supervision
  3. Consulting Committees
  4. Instructional Materials
  5. Clerical and Janitorial
  6. Innovative Programs
  7. Information and Communication
  8. Placement and Follow-up

1.2 Facilities and Equipment for Agricultural Education
  1. Classroom
  2. Agricultural Mechanics
  3. Laboratories
    a. Classroom
    b. Field
  4. Special Equipment
  5. Office

### 1.1 Services in Agriculture

Guiding Statement:

Services should be provided which allow for an effective instructional program in the area served.

A. and B.

Facts and Trends

| | Three Years Ago | Last Year | This Year |
|---|---|---|---|
| Guidance and counseling program: | | | |
| School | | | |
| Teacher | | | |
| Did school provide supervision | | | |
| Supt. | | | |
| Prin. | | | |
| Director | | | |
| Use of consulting committee | | | |
| Number of meetings held | | | |
| Did school provide in-service education? | | | |
| Did teacher participate in professional improvement? | | | |
| Number of meetings attended | | | |
| Number of publications read | | | |

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| | Three Years Ago | Last Year | This Year |
|---|---|---|---|
| Did the school provide teacher aides? | | | |
| Did the school provide secretarial assistance? | | | |
| Did school provide janitorial services to the department? | | | |
| Did the school encourage and participate in innovative programs? | | | |
| Did the school provide information to the school service area? | | | |
| Did the school keep records of placement of former students leaving school? | | | |
| Did the school follow-up graduates? | | | |

C. Outcomes or Results

Use local interviews, observations, and discussion as a basis for your appraisal of results. Evaluation scale: 5=excellent; 4=good; 3=average; 2=fair; 1=poor.

5 4 3 2 1 (1) The guidance and counseling service is adequate

5 4 3 2 1 (2) Supervision of instruction is adequate

5 4 3 2 1 (3) Use of the consulting committee is effective

5 4 3 2 1 (4) The variety of instructional materials is adequate

5 4 3 2 1 (5) The quality of instructional materials is adequate

D. Evaluation of Area

E. Recommendations for Further Improvement

1.2 Facilities and Equipment for Agricultural Education

Guiding Statement:

Provide facilities and equipment for programs in instructional areas needed for students to reach their objectives.

| A. Facts and Figures | This Year |
|---|---|
| Number of sq. ft. in classroom | |
| Number of sq. ft. in shop | |
| Number of sq. ft. in storage | |
| Size of classroom lab. | |
| Size of field lab. | |
| Equipment available | |

| B. Selected Trends | Two Years Ago | Last Year | This Year |
|---|---|---|---|
| Number of students utilizing facilities | | | |
| Classroom | | | |
| Shop | | | |

### C. Outcomes or Results

Use local interviews, observations, and discussion as a basis for your appraisal of results. Evaluation scale: 5=excellent; 4=good; 3=average; 2=fair; 1=poor.

5 4 3 2 1 (1) How adequate is the size of the classroom and laboratory area in terms of instructional needs?

5 4 3 2 1 (2) How adequate is the size of the agricultural-mechanics shop in terms of instructional needs?

5 4 3 2 1 (3) How adequate is the amount of classroom-laboratory equipment?

5 4 3 2 1 (4) How adequate is the quality of classroom-laboratory equipment?

5 4 3 2 1 (5) How adequate is the amount of agricultural-mechanics equipment and tools?

5 4 3 2 1 (6) How adequate is the quality of agricultural-mechanics equipment and tools?

5 4 3 2 1 (7) How adequate are the provisions for safety?

### D. Evaluation of Area

### E. Recommendations for Further Improvement

## Other Center Publications

"Guidelines for State Supervisors in Office Occupations Education."
1965 Business Clinic

A Report of a National Seminar on Agricultural Education, "Program Development and Research."

"Guidance in Vocational Education." - Guidelines for Research and Practice.

"Research Planning in Business and Office Education."

"Evaluation and Program Planning in Agricultural Education."

"A Report of a National Seminar on Health Occupations Education Centers."

"A Report of a National Seminar on Cooperative Education."

A Report of "A National Leadership Seminar on Home Economics Education."